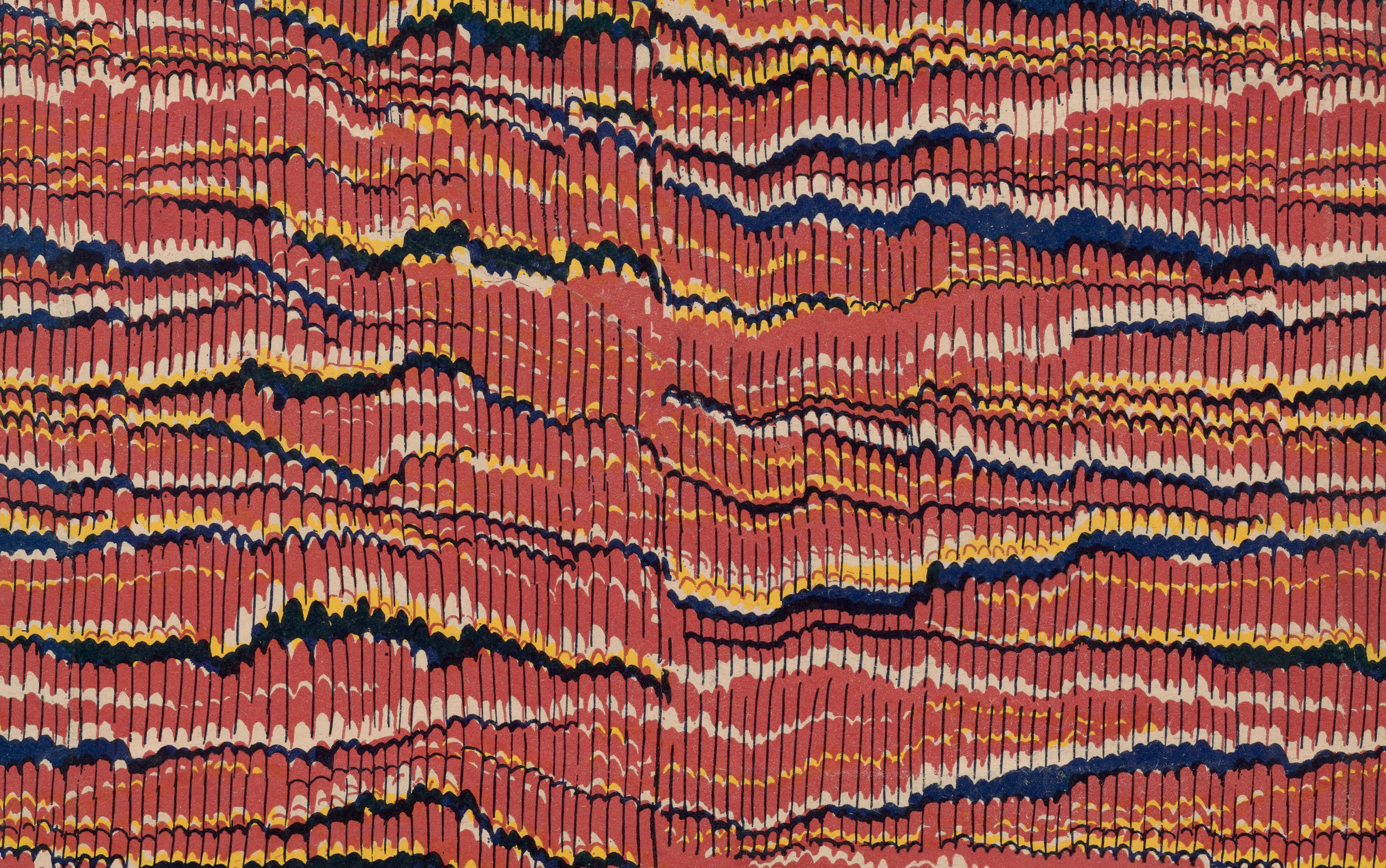

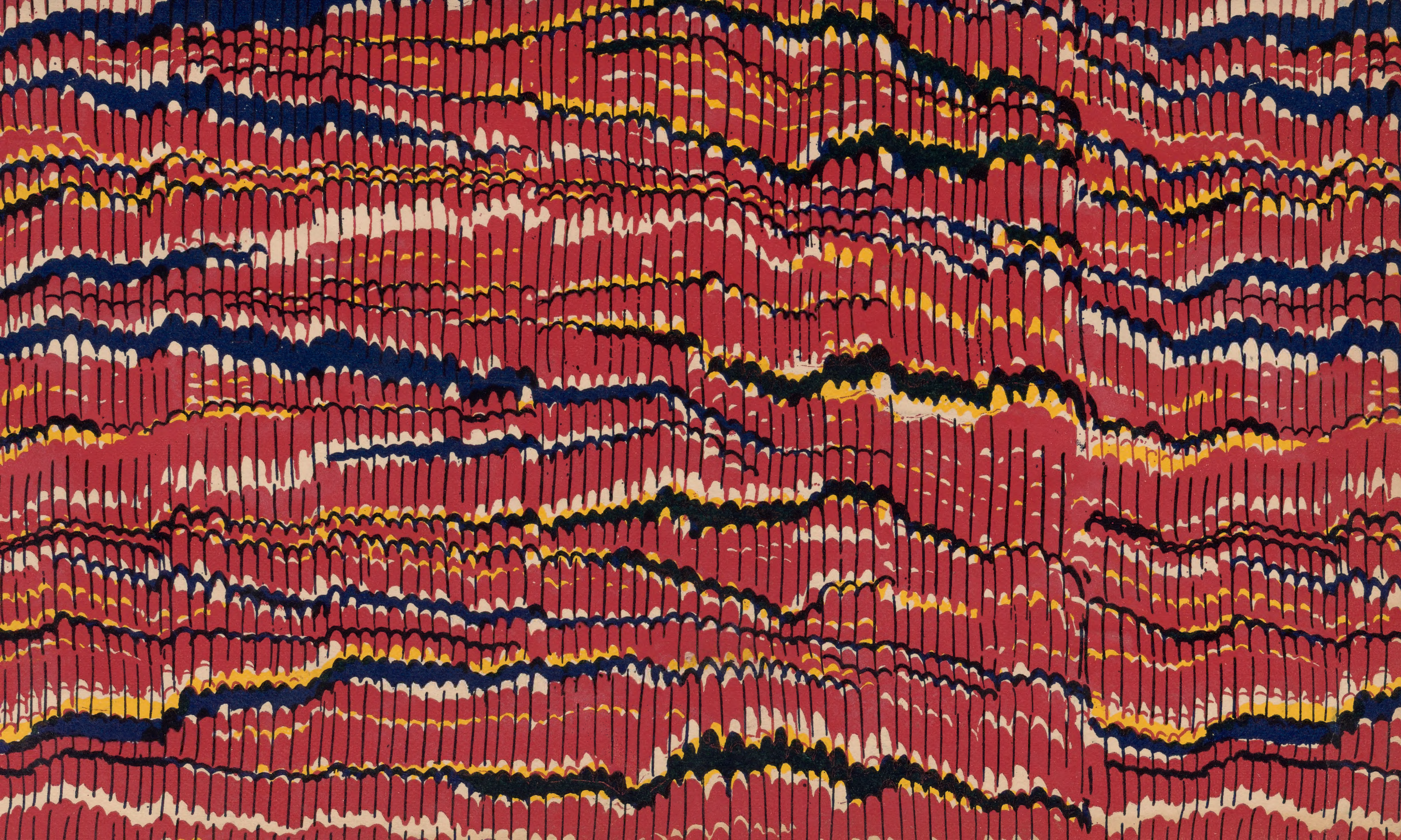

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DE LA

SOCIÉTÉ ROYALE ENTOMOLOGIQUE

D'ÉGYPTE

30

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1926

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SOCIÉTÉ ROYALE ENTOMOLOGIQUE

D'ÉGYPTE

FONDÉE LE 1er AOUT 1907

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Placée sous le Haut Patronage du Gouvernement Egyptien
par Décret Royal en date du 15 Mai 1923

Année 1926

MAY 11 1927
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NATIONAL EDUCATIONAL

LE CAIRE
IMPRIMERIE P. BARBEY

1927

La Société Royale Entomologique d'Egypte tient ses séances le premier mercredi de chaque mois (excepté Juillet, Août et Septembre) à 6 heures p.m., dans la Salle de l'Institut d'Egypte.

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fasc. 1 — Révision des *Chrysidides* de l'Egypte, par Robert du Buysson, 1908. Prix P.T. 80

fasc. 2 — Révision des *Mutillides* de l'Egypte, par Ernest André, 1910. Prix P.T. 80

fasc. 3 — Révision des Orthoptères de l'Egypte, 1re partie: *Forficulides, Blattides, Mantides*, par le Dr W. Innes Bey, 1912. Prix P.T. 80

fasc. 4 — Liste des Cécidies signalées en Egypte jusqu'à ce jour, par le Dr Bronislaw Dçbski, 1918. Prix P.T. 40

Volume II :

fasc. 1 — A Monograph of Egyptian Diptera, Part I, Fam. *Syrphidae*, by H. C. Efflatoun, 1922. Prix P.T. 120

fasc. 2. — A Monograph of Egyptian Diptera, Part II, Fam. *Trypaneidae*, by H. C. Efflatoun, 1924. Prix P.T. 120

Les **Bulletins** et les **Mémoires** sont en vente au Secrétariat de la **Société**.

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SOCIÉTÉ ROYALE ENTOMOLOGIQUE

D'ÉGYPTE

DIX-NEUVIÈME ANNÉE

1926

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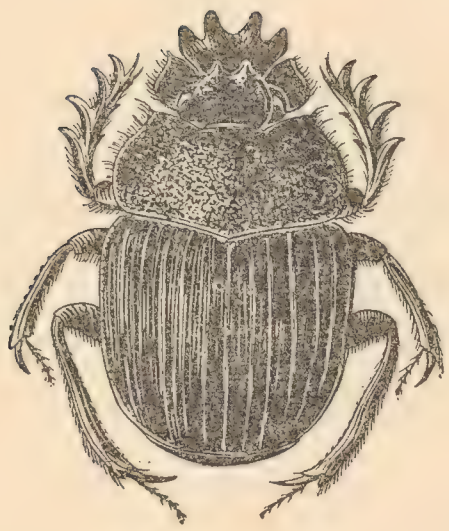

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par Décret Royal en date du 15 Mai 1923

Année 1926

LE CAIRE
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1926

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DECRET APPROUVANT LES STATUTS DE LA SOCIETE ROYALE ENTOMOLOGIQUE D'EGYPTE (1).

Nous, Roi d'Egypte,

Considérant le but élevé pour lequel a été fondée la Société Royale Entomologique d'Egypte,

Considérant l'opportunité d'encourager et de seconder les travaux de la dite Société;

Sur la proposition du Président de Notre Conseil des Ministres et l'avis conforme du dit Conseil;

DÉCRÉTONS :

Art. 1er. — La Société Royale Entomologique d'Egypte est placée sous le Haut Patronage du Gouvernement Egyptien.

Les statuts annexés au présent décret sont approuvés (2).

Art. 2. — Le Président du Conseil des Ministres est chargé de l'exécution de Notre présent décret.

Fait au Palais d'Abdine, le 29 Ramadan 1341.
(15 Mai 1923).

FOUAD.

Par le Roi :
Le Président du Conseil des Ministres,
YEHIA IBRAHIM.

(*Traduction.*)

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(1) Ce Décret a été publié dans le *Journal Officiel* du Gouvernement Egyptien, numéro 77, en date du Jeudi 2 Août 1923.

(2) Le texte complet des statuts est aussi publié dans le Bulletin de cette Société, année 1922.

MEMBRES BIENFAITEURS

1914 M. Moustafa Bey Kamel El Salankili, Damanhour (Béhéra).

1925 S.E. El Sayed Fathalla Pacha Mahmoud, Rahmania (Béhéra).

» M. Riad Bey Abdel Kawi El Gebali, Chebin El Kom (Menoufia).

» S.E. Georges Pacha Wissa, Assiout (Haute-Egypte.

» M. Yehia Bey Kawalli, Minieh (Haute-Egypte).

» M. Yacoub Bibawy Attia Bey, Minieh (Haute-Egypte).

» S.E. Hassan Charawi Pacha, Minieh (Haute-Egypte).

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» M. Mohamed Bey Tewfick Mohanna, Tewfikieh (Béhéra).

» M. Hassan Ahmed Bey Moussa, Minieh (Haute-Egypte).

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» M. Hassan Mohamed Bey El Tahtawi, Guirgueh (Haute-Egypte).

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» M. Dordeir Taha Abou Gounema Bey, Minieh (Haute-Egypte).

1926 M. Mohamed Bey Rifaat El Roznamgy.

BULLETIN

DE LA

SOCIÉTÉ ROYALE ENTOMOLOGIQUE D'EGYPTE

Liste des Membres de la Société en 1926

(Les noms des Membres fondateurs sont précédés de la lettre **F**)

Membres Honoraires

1908 MM. Alluaud (Charles), 3, rue du Dragon, à Paris (6e), France.

1920 Bezzi (Prof. Mario), Via Pio V, N° 3, Torino, Italie.

1908 Bugnion (Prof. Edouard), « La Luciole », Aix en Provence, France.

» Buysson (Henri du), Château du Vernet, par Broût-Vernet (Allier), France.

» Buysson (Robert du), St. Rémy la Varenne, par St. Mathurin (Maine et Loire), France.

1922 Debski (Dr. Bronislaw), villa Wanda, Hélouan, près le Caire.

1924 Ebner (Prof. Richard), Beethovengasse 3, Vienne IX, Autriche.

1923 Garcia Mercet (Ricardo), Museo Nacional de Ciencias Naturales, Hipodromo, Madrid, Espagne.

1909 JOANNIS (l'Abbé J. de), 7, rue Coëtlogon, Paris (6e), France.

1924 HORVATH (Dr. Geza), Musée National Hongrois, Budapest, Hongrie.

1909 MARCHAL (Dr. Paul), Directeur de la Station Entomologique de Paris, 45, rue de Verrières, à Antony (Seine), France.

1917 NAVAS (R. P. Longin), Colegio del Salvador, Apartado 32, Zaragoza, Espagne.

1908 PIC (Maurice), à Digoin (Saône et Loire), France.

1921 PIERRE (Claude), 7 bis, rue du Loing, Paris (14e), France.

1909 ROTHSCHILD (Lord), Tring Park, Tring, Herts, Angleterre.

1920 TONNOIR (André), Museum d'Histoire Naturelle, 31, rue Vautier, Bruxelles, Belgique.

1920 VILLENEUVE (Dr. Joseph), Rue des Vignes, Rambouillet (Seine et Oise), France.

1908 WERNER (Dr. Franz), Margaretenhof, 12 (VII), Vienne, Autriche.

Membres Correspondants

1924 MM. ADAIR (Ernest), 34, rue de la Garrigue, Nîmes (Gard), France.

1923 BAZIN (J. Hervé), Le Patys, Segré (Vern d'Anjou), (Maine et Loire), France.

» BECKER (Dr. Th.), Weissenburgerstr. N° 3, Liegnitz (Slesien), Allemagne.

1923 BERGEVIN (Ernest de), rue Elysée Reclus, Alger, Algérie.

1921 (F) BŒHM (Rudolf), Flœtzersteig 127, Vienne XIII/3, Autriche.

1924 CROS (Dr. Auguste), 6, rue Dublineau, Mascara, Algérie.

» FALCOZ (Dr. Louis), Vienne (Isère), France.

» FLOWER (Major Stanley Smyth), Tring, Herts, Angleterre.

1923 GOUGH (Dr. Lewis H.), Jagers Drift, Longhope, Bedford District, Cape Province, South Africa.

1924 HINDLE (Dr. Prof. Edouard), Magdelene College, Cambridge, Angleterre.

1923 HUSTACHE (A.), Pensionnat St. Laurent, à Lagny (Seine et Marne), France.

1925 KIRKPATRICK (Thomas Winfrid), Scott Agricultural Laboratories, Nairobi, Kenya Colony, Africa.

1923 PEYERIMHOFF (P. de), 78, Boulevard Bon Accueil, Alger, Algérie.

» SICARD (Dr. A.), Saint-Vivien, par Vélines (Dordogne), France.

1924 THERY (André), Institut Scientifique Chérifien, Rabat, Maroc Occidental.

1926 TRAUTMANN (Dr W.), Dionstrasse 44, Lautawerk (Preussische Lausitz), Allemagne.

Membres Titulaires

1913 MM. ABAZA (Fouad Bey), Boîte Postale N° 63, au Caire.

1923 Abdel Rahman (Hassan), Assistant Biologiste, Ecole de Médecine, Kasr el Aïni, au Caire.

1924 Abram (Joseph), 18, Rue Madabegh, au Caire.

1925 Agricultural School Mikveh-Israel, near Jaffa, Palestine.

1909 Alfieri (Anastase), Boîte Postale N° 430, au Caire.

1910 Andres (Adolf), Immeuble de la Banque d'Athènes, Ghizeh, près le Caire.

1924 Azadian (Dr. A.), Laboratoires d'Hygiène Publique, au Caire.

1908 Bahari (G. C.), Rue Mikhaïl Gad, Fagala, au Caire.

1923 Benoist (le Baron Louis de), Compagnie du Canal de Suez, Kasr el Doubara, au Caire.

» Bodenheimer (Dr. Fritz), Entomologiste, Section Expérimentale d'Agriculture, Boîte Postale N° 121, Tel Aviv, Palestine.

1921 Buxton (Dr P. A.), London School of Hygiene and Tropical Medecine, Endsleigh Gardens, N.W., Londres, Angleterre.

1912 Caprara (César), Caisse de la Dette Publique, au Caire.

1923 Carneri (Alexandre), 33, Boulevard Ramleh, à Alexandrie.

1917 Casoria (Matteo), 153, Boulevard de la Reine Nazleh, au Caire.

F Chakour (Edgard), Compagnie des Eaux du Caire, Boulac, au Caire.

1910 Debski (Dr. Bronislaw), villa Wanda, Hélouan, près le Caire.

1923 Deleuze (Carlo), Boîte Postale N° 758, au Caire.

» Efflatoun (Ahmed Bey), 38, Avenue Choubrah, au Caire.

1919 Efflatoun (Hassan Bey), Sous-Directeur Technique, Sous-Section d'Entomologie, Ministère d'Agriculture, au Caire.

1920 Efflatoun (S.E. Mohamed Pacha), 38, Avenue Choubrah, au Caire.

1925 Entomological Society of London, 41, Queen's Gate, South Kensington, S.W.7, London, Angleterre.

1924 Fahmy (Osman Bey), Direction des Chemins de Fer de l'Etat, au Caire.

1921 Ferrante (Attilio), Avocat, 4, Rue Gohari, au Caire.

F Ferrante (Giovanni), Avocat, 4, Rue Gohari, au Caire.

1922 Forcart (Dr. Max), 18, Rue Madabegh, au Caire.

1914 Garboua (Maurice), Rue Kenissa el Guédida, Kasr el Nil, au Caire.

1907 Garozzo (A.S.), Ingénieur, 3, Rue Galal Pacha, au Caire.

1908 Green (Jacques), Avocat, Rue Madabegh, au Caire.

1921 GREISS (Elhamy), Université Egyptienne, Palais Zaafaran, Abbassieh, près le Caire.

1920 HALL (W.J.), Meadi, près le Caire.

1908 HESS (Dr. Ernest), Kasr el Nil, au Caire.

1924 HONORÉ (A.), Chimiste, Raffinerie de Hawamdieh, Haute-Egypte.

» HOURIET (Raoul), Président des Tribunaux Mixtes, au Caire.

F INNES Bey (Dr. Walter), Square Halim, Esbékieh, au Caire.

1915 JULLIEN (Joseph), Compagnie du Canal de Suez, Kasr el Doubara, au Caire.

1922 KAOURK (Elias A.), Service Mécanique, Ministère des Travaux Publics, au Caire.

1926 KASSEM (Mohamed), Sous-Section d'Entomologie, Ministère d'Agriculture, au Caire.

1924 KHALIL ABDEL KHALEK (Dr. Mohamed), Ecole de Médecine, Kasr el Aïni, au Caire.

1925 KOCHEIRI Bey (Abdel Baki Zaki El), Président du Tribunal Indigène de Keneh, Haute-Egypte.

1923 LABORATOIRES D'HYGIÈNE PUBLIQUE, Bibliothèque de la Section d'Helminthologie, au Caire.

1921 LIMONGELLI (Mme C. Artin D.), Rue el Nemr, au Caire.

1926 LOSCO (Bernard), Savoy Chambers, Boîte Postale N° 739, au Caire.

1922 LOTSY (Dr. G. O.), Immeuble C, Rue Emad el Dine, au Caire.

1918 MAHER Pacha (S.E. Moustapha), 30, Rue Omar Ebn Abdel Aziz, Mounira, au Caire.

1916 MEZRAHI (Salomon), 8, Rue Borsa el Guedida, Savoy Chambers, Kasr el Nil, au Caire.

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1919 MOCHI (Dr. Alberto), 119, Boulevard de la Reine Nazleh, au Caire.

1926 MORTERA (Aldo), Savoy Chambers, Boîte Postale N° 739, au Caire.

1907 MOSSERI (Victor), Ing. Agronome, 23, Rue Abou-Sebâa, au Caire.

1924 MUSTACCHI (Enrico), 6, Rue Chawarbi, Kasr el Nil, au Caire.

» MUSTACCHI (Gino), Banque Nationale, Kasr el Nil, au Caire.

1911 PETROFF (Alexandre), Consulat de Russie, 15, Boulevard Ramleh, à Alexandrie.

1908 PEZZI (E.), Avocat, Rue El Manakh, au Caire.

» PIOT Bey (J.B.), 7, Rue Deir el Banat, au Caire.

1926 PRIVAT (Arthur), 6, Boulevard Dubouchage, Nice, France.

1922 ROCHE Bey (E. A.), Service des Municipalités, Ministère de l'Intérieur, Savoy House, au Caire.

1926 SABRAN (Henri), 5, Rue Emad el Dine, au Caire.

» SARDA (Edmond), National Bank of Egypt, Kasr el Nil, au Caire.

1922 SALEM (Abdel Aziz), Dairy Co. Street, Koubbeh Gardens, près le Caire.

» SHAHINE Pacha (S.E. le Dr. Mohamed), Sous-Secrétaire d'Etat à l'Hygiène Publique, au Caire.

1924 SHAW (Fred), Cotton Research Board, Ghizeh, près le Caire.

» SIRRY (Hamed Bey), Sous-Section Entomoligique, Ministère d'Agriculture, au Caire.

1921 SOCIÉTÉ ROYALE D'AGRICULTURE, Laboratoire d'Entomologie de la Section Technique, Boîte Postale N° 63, au Caire.

1926 TEWFIK (Mohamed), Sous-Section d'Entomologie, Ministère d'Agriculture, au Caire.

1920 TIMOUR (Ismat Bey), 40, Avenue Choubrah, au Caire.

1923 VALLET (Jean), Avocat, 1, Rue Kadi Fadel, Kasr el Nil, au Caire.

1922 VLACHOS (Dr. A. de), Immeuble Rofé, Avenue Fouad Ier, au Caire.

1925 WALY (S.E. Gafar Pacha), Matarieh, près le Caire.

1926 WALY (Dr. Mohamed), Ecole de Médecine, Kasr el Aïni, au Caire.

1923 WELLCOME TROPICAL RESEARCH LABORATORIES, Entomological Section, Khartoum, Soudan.

1912 WILKINSON (Richard), National Bank of Egypt, Kasr el Nil, au Caire.

F WILLCOCKS (F.C.), Entomologiste de la Société Royale d'Agriculture, Boîte Postale N° 63, au Caire.

1922 WILLIAMS (C.B.), Plant Protection Section, Ministère d'Agriculture, au Caire.

1918 WLANDI (Charles), Avocat, Boîte Postale N° 380, au Caire.

1926 ZAKI (Ahmed), Junior Entomologist, Sous-Section d'Entomologie, Ministère d'Agriculture, au Caire.

1915 ZOOLOGICAL SERVICE, Ghizeh, près le Caire.

1926 ZULFICAR (Samir), Zamalek, près le Caire.

Liste des Sociétés qui ont accepté l'échange des Publications.

Afrique Occidentale Française :

Monsieur le Gouverneur Général (Comité d'Etudes Historiques et Scientifiques), Dakar, Sénégal (1924).

Algérie :

Société d'Histoire Naturelle de l'Afrique du Nord, Faculté des Sciences d'Alger, Alger.

Allemagne :

Deutsche Entomologische Museum, Gosler-str. 20, Berlin, Dahlem.

Deutsche Entomologische Gesellschaft, Hümboldtstr. 2, Berlin-Steglitz, S.I. 24 (1908).

Senckenbergischen Naturforschenden Gesellschaft, Bibliothek, Viktoria Allee 9, Frankfurt A/M (1924).

Angleterre :

Imperial Bureau of Entomology, Review of Applied Entomology, 41, Queen's Gate, London S.W.7.

Zoological Museum, Novitates Zoologicae, Tring Park, Tring, Herts.

The Science Museum Library, South Kensington, London S.W.7 (1924).

The Apis Club (The Bee World), Port Hill House, Benson, Oxon (1922).

The Philosophical Society of Cambridge, Zoological Laboratory, The Museums, Cambridge (1924).

Argentine :

Instituto Biologico de la Sociedad Rural Argentina, Buenos Aires (1922).

Autriche :

Intendanz des Naturhistorischen Museums, Burgring 7, Vienne I.

Zoologisch-Botanische Gesellschaft, III, Mechelgasse 2, Vienne.

Koleopterologische Rundschau (MM. Winkler & Wagner), Dittesgasse Nr. 11, XVIII, Vienne (1920).

Australie :

The Entomologist's Office, Department of Agriculture, Sydney, N.S.W.

Belgique :

Société Entomologique de Belgique, 89, Rue de Namur, Bruxelles.

Brésil :

Museu National do Rio do Janeiro, Rio de Janeiro.

Estaçao Experimental de Algodao (Cotton Experiment Station), Ceara (1924).

Canada :

Entomological Society of Ontario, Ontario.

Library, Department of Agriculture, West Block, Ottawa.

Department of Agriculture, Entomological Branch, Ottawa (1924).

Chili :

Museo de Historia Natural y Etnografia, Conception.

Anales de Zoologia Aplicada, Casilla 2974, Santiago (1925).

Revista Chilena de Historia Natural, Casilla 2974, Santiago (1925).

Danemark :

Entomologisk Forening, Zoologisk Museum, Krystalgade, Copenhague.

Egypte :

Ministère d'Agriculture, Bibliothèque de la Section Entomologique, au Caire.

Société Royale d'Agriculture, Bibliothèque de la Section Technique, Boîte Postale N° 63, au Caire (1921).

Cotton Research Board, Ghizeh, près le Caire (1921).

Al-Fellaha, Boîte Postale N° 2047, au Caire (1921).

Société Royale de Géographie d'Egypte, 45, rue Cheikh Youssef, au Caire (1908).

Société Royale d'Economie Politique, de Statistique et de Législation, Boulevard Reine Nazleh, au Caire (1924).

Institut d'Egypte, 1, rue Cheikh Rihan, au Caire (1908).

Equateur :

Director General de Agricultura, Quito, Ecuator (1925).

Espagne :

Instituto Generale y Técnico de Valencia, Laboratorio de Hidrobiologia Espanola, Valencia.

Junta para ampliacion de Estudios, Almagro 26, Madrid.

Junta de Ciencies Naturales de Barcelona, Museo Municipal, Barcelona.

Real Academia de Ciencias y Artes de Barcelona, Barcelona.

Real Sociedad Espanola de Historia Naturale, 74, Alphonso XII, Madrid.

Etats-Unis :

Buffalo Society of Natural Sciences, Public Library Building, Buffalo, New-York.

University of Illinois Library, Urbana, Illinois.

Library of the American Museum of Natural His-

tory, Central Park, 77th Street, 8th Avenue, New-York.

Academy of Natural Sciences, Entomological Section, Lagon Square, Philadelphia.

American Entomological Society, Lagon Square, Philadelphia.

United States Department of Agriculture, Washington, D.C.

United States National Museum, Smithsonian Institution, Washington, D.C.

Museum of Comparative Zoology, Cambridge, Mass.

University of California Library, Exchange Department, Berkeley, California (1924).

Library of the New-York State College of Agriculture and Agricultural Experiment Station, Ithaca, New-York (1925).

Smithsonian Institution, Washington, D.C.

Graduate School of Tropical Agriculture and Citrus Experimental Station, Riverside, California.

Brooklyn Museum, Eastern Parkway, Brooklyn, New-York.

Library, Agricultural Experiment Station, University Farm, Saint Paul, Minnesota (1926).

France :

L'Echange, Revue Linnéenne, Digoin (Saône et Loire).

Revue Scientifique du Bourbonnais et du Centre de la France, Moulins (Allier).

Société d'Etude des Sciences Naturelles de Nîmes, 6, Quai de la Fontaine, Nîmes (Gard).

Société Linnéenne de Bordeaux, Athénée, 53, Rue des Trois Conils, Bordeaux.

Société des Sciences Naturelles de l'Ouest de la France, Nantes (Loire Inférieure).

Société d'Histoire Naturelle, Bibliothèque Universitaire de la Faculté de Médecine, Allée Saint-Michel, Toulouse (1922).

Société Entomologique de France, Hôtel des Sociétés Savantes, 28, Rue Serpente, Paris.

Société d'Etudes Scientifiques de l'Aube, Carcassone (Aube).

Station Entomologique de Paris, 16, Rue Claude Bernard, Paris (5e).

Finlande :

Societas Entomologica Helsingforsiensis, Helsingfors (1922).

Societas pro Fauna et Flora Fennica, Kaserngatan 24, Helsingfors (1926).

Hongrie :

Musei Nationalis Hungarici, Magyar Nemezti Museum, Budapest 80.

Indes :

Zoological Survey of India, Indian Museum, Calcutta.

Agricultural Research Institute, Library, Pusa, Bihar (1923).

Agricultural Research Institute, Entomological Section, Pusa, Bihar (1923).

Italie :

Museo Civico di Storia Naturale, Genova.

Società dei Naturalisti, 48, S. Sebastiano, Napoli.

Accademia Scientifica Veneto Trentino Istriana, Padova (Veneto).

Società Adriatica di Scienze Naturali, 4, Piazza degli Studi, Trieste (1925).

La Reale Stazione di Entomologia Agraria, 19, Via Romana, Firenze.

La Reale Stazione Sperimentale di Gelsicoltura e Bachicoltura di Ascoli Piceno (1922).

Rivista di Coleotterologia, Casella : Palazzo Ducale 279, Genova (1923).

Instituto Zoologico della Reale Universitâ di Napoli, Napoli (1923).

Laboratorio di Zoologia Generale e Agraria, Napoli (Portici).

Bibliothèque de l'Institut International d'Agriculture, Villa Umberto I, Rome.

Società italiana di Scienze Naturali, Palazzo del Museo Civico di Storia Naturale, Corso Venezia, Milano.

Maroc :

Société des Sciences Naturelles du Maroc, Institut Scientifique Chérifien, Rabat (1921).

Mésopotamie :

The Director of Agriculture, Baghdad.

Mexique :

Junta Nacional Directora de la Campana contra la

Langosta, Biblioteca, Presidencia, Departamento Directivo, Veracruz (1926).

Norvège :

Tromso Museum Library, Tromso (1926).

Pologne :

Musée Polonais d'Histoire Naturelle, Bureaux des Echanges Internationaux, Bibliothèque du Ministère des Affaires Etrangères, Varsovie (1924).

Société Polonaise des Entomologistes, Rutowskiego 18, Lwow (1926).

Portugal :

Société Portugaise des Sciences Naturelles, 144, Rue Santa Martha, Lisbonne.

Museum Zoologique de l'Académie des Sciences de Coimbra, Coimbra (1924).

Russie :

Société Entomologique de Russie, Musée Zoologique de l'Académie des Sciences U.R.S.S., Léningrad.

Institut des Recherches Biologiques de l'Université de Perm, Perm, Zaimka (1926).

Suède :

K. Swenska Vetenskapsakademien i Stockholm, Stockholm.

Entomologiska Foreningen, Brottninggatten 94, Stockholm.

Kgl. Vetensk. och Witterh. Samhalle, Goteborg.

Centralanstalten för försöksväsendet pa jordbruksomradet (Entomologiska Afdelningen, Experimentalfältet), Stockholm (1924).

Suisse :

Zentralbibliotek, Naturforschenden Gesellschaft, Bern.

Zentralbibliotek, Naturforschenden Gesellschaft, Zurich.

Internationaler Entomologenverein (Societas Entomologica), Zurich.

Tcheco-Slovachie :

Casopis, Société Entomologique Tcheco-Slovaque, Karlov 2028, Prague II (1923).

Sbornik, Section Entomologique du Musée National de Prague, Prague (1924).

N.B. — Pour changement d'adresse, erreurs ou omissions, s'adresser à M. le Secrétaire Général de la Société Royale Entomologique d'Egypte, Boîte Postale N° 430, au Caire.

Séance du 27 Janvier 1926

Présidence de M. le Dr. B. Debski, *Vice-Président.*

Communication

Névroptères d'Egypte et de Palestine

2me Partie (*)

par le R. P. Longin Navas, S.J.

(11 figures dans le texte)

Famille des Myrméléonides

Dans cet article sont mentionnées toutes les espèces que Monsieur Anastase Alfieri m'a communiquées pour l'étude, qui d'ailleurs représentent la plupart de celles connues d'Egypte et de Palestine. Je termine mon travail par un aperçu ou clé dichotomique des genres cités dans ce mémoire.

Tribu Palparini Banks

1. *Palpares cephalotes* Klug.

Egypte : Fayoum, en Septembre (Dr. W. Innes Bey); Kerdacé 25-26.7.1924.

(*) On trouvera la première partie (Famille des Ascalaphides) dans ce Bulletin, année 1925, pp. 29-36.

2. *Palpares libelluloides* L.

Egypte : Solloum 11.6.1916 (Williamson).

Palestine : Jérusalem 23.6.1918 (Williamson); Safarieh 26.6.1918 (Seabrook); Jaffa 15.5.1918 (Seabrook).

3. *Palpares hispanus* Hag.

Egypte : Fayoum, en Septembre (Dr. W. Innes Bey).

4. *Palpares geniculatus* Nav.

Egypte : Solloum 12.8.1917 (Allen); Dekhela (Mariout) 20.8.1924, (H. C. Efflatoun Bey).

5. *Palpares dispar* Nav.

Egypte : Wadi Digla (le soir à la lampe) 4.8.1923 (C. B. Williams); Abou Rouache 12.8.1924; El Mansouria 23.8.1924; Héliopolis (désert) 5.9.1913 (E. W. Adair); Wadi Hoff 31.12.1913 (E. W. Adair).

Tribu Acanthaclisini Nav.

6. *Acanthaclisis occitanica* Vill.

Egypte : El Arish (Nord Est Sinaï) 15.6.1917 (Portal); Aboukir 17.5.1915 (G. Storey); Bulkeley (Ramleh, près Alexandrie) 24.6.1916 (G. Dudgeon).

7. *Neoclisis lineata* Nav. (fig. 1).

Je rapporte à cette espèce, décrite d'après un exemplaire ♀, quatre spécimens que j'ai sous les yeux (2 ♂ et 2 ♀). La description de cette espèce (voyez *Annali Mus. Civ. di Storia Naturale*, Genova, 1914, p. 206, f. 3) sera complétée par les particularités du ♂ qui suivent.

Abdomen ad latera fuscum, superne singulis segmentis medio plerumque ferrugineo-fulvis, apice fuscis; cercis ♂ desuper visis (fig. 1 a.) postice extror-

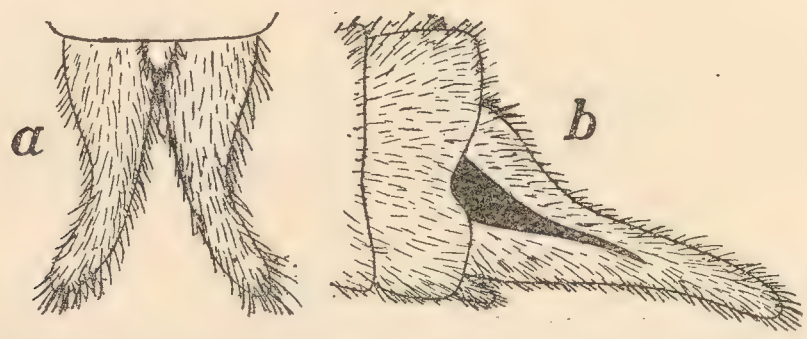

Fig. 1. — *Neoclisis lineata* ♂ Nav. : Bout de l'abdomen.

sum arcuatis; a latere visis. (fig. 1 b.) basi latis, sensim attenuatis, postice leviter deorsum arcuatis; fulvo-ferrugineis, linea laterali longitudinali fusca.

Ala anterior ad rhegma stria fusca obliqua subindicata, seu in duas maculas breves divisa; fere 8-10 venulis radialibus internis; 8-9 ramis sectoris radii.

Ala posterior immaculata, fere 6 venulis radialibus internis, 8-10 ramis sectoris radii.

Long. corp. ♂	37.5	mm.
» al. ant.	42.	mm.
» al. post.	37.6	mm.

Egypte : Borollos 13.8.1916 (S.S. Flower); Jardin Zoologique de Ghizeh 15.7.1917 (S.S. Flower); Wadi Rachid 15.9.1917 (C. B. Williams); le Caire 16.10.1915 (Cap. Norne).

8. *Phanoclisis longicollis* Ramb.

Egypte : Borollos 17.8.1916; Solloum 5.8.1917 (Allen); Abou Rouache 12.8.1924.

Tribu Myrmeleonini Banks

9. *Morter hyalinus* Oliv.

Egypte : Meadi 22.10.1913, 21.9.1915, 21-26.6. 1916, 8.5.1917 (Dr. L. H. Gough); Meadi 13.5.1914 (G. Storey) ; Abou Rouache 16.9.1924 ; Bourgash 15.10.1924; Alexandrie 17.7.1912 (Mistikawy); Amrieh (Mariout) 4.7.1914 (Mistikawy) ; Ferdan-Kantara 1.9.1924 (A. Alfieri); Kassassin 8.10.1916 (P. Graves); Wadi No'oth (Galala) 3.4.1924 (T. W. Kirkpatrick); Oasis de Kharga 12-13.3. et 24.10.1924 (C.B. Williams); Oasis de Dakhla 11.5.1918 (G. Storey); Oasis de Baharia 1.6.1918 (G. Storey) ; Ain Gederat 16.9.1924 (C. B. Williams).

10. *Morter alternans* Brull. var. *fasciata* Nav.

Egypte : Wadi Digla (le soir à la lampe) 25.6.1922, 5-6.8 et 7-12.9.1923 (C. B. Williams); idem 29-31.5. 1924 (C. B. Williams et T. W. Kirkpatrick); idem 1-4.8.1924 (A. Alfieri).

11. *Solter liber* Nav.

Egypte : Wadi Digla (le soir à la lampe) 5-6.8 et 7.9.1923, 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Wadi Hussein 31.5.1919 (E. W. Adair); Wadi Guffan 6.7.1916; Meadi 29.7.1914 et 12.6.1917 (Dr. L. H. Gough); Oasis de Kharga 6.8.1916 (Dr. White).

12. *Gepus invisus* Nav.

Egypte : Meadi 25 et 29.7.1917 (Dr. L. H. Gough); Zeitoun 29.9.1916 (A. Alfieri); Flemming (Ramleh, près Alexandrie) 20.8.1914 (A. Alfieri); Solloum 5.8.1917 (Allen); Assouan 15.5.1921 (Capt. K. J. Hayward).

13. *Gepus curvatus* Nav.

Egypte : Wadi Digla (le soir à la lampe) 5.8.1923 (C. B. Williams); Romani (Nord Est Sinaï) 26.8.1916 (A. W. Boyd); Mazar (Nord Est Sinaï) 9.6.1917 (G. Storey).

14. *Nophis Teilhardi* Nav.

Egypte : Sakkara 30.7.1915 et 8.6.1917 (G. Storey); Oasis de Kharga 11.5.1918 (G. Storey); Oasis de Dakhla 4.5.1918 (G. Storey); El Arish (Nord Est Sinaï) 15.6.1917 (Portal).

15. *Cueta variegata* Klug.

Egypte : Wadi Digla (le soir à la lampe) 6.8.1923 et 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Wadi Hussein 11.4.1917; Meadi 11.5 et 6.6.1912 (Dr. L. H. Gough); Ikinghi Mariout 27.7.1924 (H. C. Efflatoun Bey et A. Alfieri).

16. *Cueta pallens* Klug.

Egypte : Meadi 6.6.1912, 2.6.1913, 14.5.1917 (Dr. L. H. Gough); Assouan 4.4.1921 (Capt. K. J. Hayward).

17. *Cueta trilineata* Nav.

Egypte : Wadi Digla (le soir à la lampe) 18.9.1922 et 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Wadi Um Elek 3.5.1918 (E. W. Adair); Meadi 6.6.1915 (G. Storey); Meadi 16.6.1917 (Dr. L. H. Gough); Ein el Chams 1.6.1924; Amrieh (Mariout) 4.7.1914 (Mistikawy).

18. *Cueta puella* Nav.

Egypte : Wadi Digla (le soir à la lampe) 18.9.1922

(C. B. Williams); Meadi 5.9.1923 (C. B. Williams); El Arish (North Est Sinaï) 26.8.1917 (P. Graves).

19. *Cueta longula* sp. nov. (fig. 2).

Flava.

Caput macula fusca inter antennas, antrorsum ante antennas in striam obliquam utrinque producta; sulco verticis longitudinali usque ad occiput; occipite puncto laterali fusco; oculis in sicco plumbeis; palpis articulo ultimo labialum grandi, crasso, externe fusco, acuto; antennis fortibus, thorace breviori-

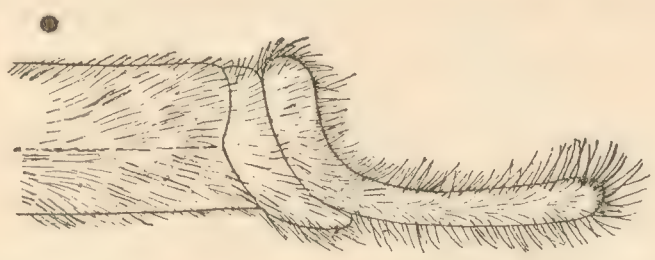

Fig. 2. — *Cueta longula* ♂ Nav. : Bout de l'abdomen.

bus, clava elongata, parum dilatata, fulvo-ferrugineis, primo articulo flavo.

Thorax inferne stria laterali longitudinali sub alas, alia inferiore in mesothorace, superne stria longitudinali media, in meso et metanoto fere ad scutella solum puncto indicata, alia laterali duobus punctis anteriore et posteriore in pronoto, uno vel altero in meso- et metanoto. Prothorax transversus, trapezoidalis, antrorsum angustatus, pilis lateralibus longis, arcuatis, flavo-albis.

Abdomen ♂ alis longius, flavo dense, ad apicam fuscescente pilosus, linea dorsali fusca, ad articulationes interrupta; cercis superioribus (fig. 2) longis, fere ut in *Macronemuro*, basi declivibus, arcuatis, mox horizontalibus, cylindricis, fusco pilosis.

Pedes nigro setosi, coxis pilis albidis; femoribus atomis fuscis notatis; calcaribus rectis, testaceis, medium metatarsi attingentibus, apice articulorum tarsorum fusco.

Alae hyalinae, irideae, reticulatione flava; subcosta ad venularum insertionem distincte fusco punctata, duobus ultimis venulis radialibus fuscis fuscoque limbatis, levissime ultima; venulis plerumque ad insertionem fuscis, venisque ibidem leviter fusco striatis; atomo fusco ad rhegma; area apicali venulis gradatis divisa.

Ala anterior fere 10 venulis radialibus internis; sectore radii 9-10 ramis.

Ala posterior 8 venulis radialibus internis; sectore radii 9 ramis.

Long. corp ♂	33 mm.
» al. post	21 mm.
» cerc.	3.4 mm.

Egypte : Meadi 29.7.1914, 27.5.1915, 4.9.1917, 6.6.1921 (Dr. L. H. Gough); Barrage 28.5.1914.

21. *Myrmecaelurus laetus* Klug.

Egypte : Wadi Digla (le soir à la lampe) 5.8.1923 et 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Sakkara 30.7.1915 (G. Storey); El Mansouria 30.8.1924; Oasis de Kharga 10.5.1918 (G. Storey) et 25.9.1916; Oasis de Baharia 1.6.1918 (G. Storey).

21. *Myrmecaelurus laetus* Klug.

Egypte : Wadi Karam (Nord Est Sinaï), Mai 1920 (coll. A. Alfieri).

22. *Myrmecaelurus lobatus* Nav.

Ayant décrit (*Broteria*, 1912, p. 89) cette espèce seulement d'après la ♀, je l'avais dubitativement rapportée au genre *Myrmecaelurus*. La connaissance du ♂ me permet aujourd'hui de compléter la description originale.

Caput linea fusca in Λ ante antennas.

Abdomen penicillis ♂ nigris, densis, latis, brevibus, pilis appendici flava insertis; lamina subgenitali flava.

Alae venulis fusco limbatis, etiam axillis furcularum marginalium fusco limbatis.

Ala anterior 5 venulis radialibus internis ; sectore radii 8 ramis.

Ala posterior 4 venulis radialibus internis; sectore radii 9 ramis.

Long. corp.	♂	18 mm.
»	al. ant.	20.5 mm.
»	al. post	18.5 mm.

Egypte : Amrieh (Mariout) 12.7.1924 (coll. A. Alfieri); Mersa Matrouh 25.5.1917 (Williamson); Solloum 5.8.1917 (Allen); El Arish (Nord Est Sinaï) 2.6.1917 (Portal); Rafa (Nord Est Sinaï) 9.9.1917 (James).

Cette espèce a aussi été capturée sur les côtes du Sud de l'Arabie : Kinina et Merda 13-19.3.1920 (Heald) ; Hali 13.2.1920 (Heald) ; Sibbihat 13.1.1920 (Heald).

23. *Nohoveus venalis* sp. nov.

Flavus, fusco varius.

Caput flavum, stria longitudinali in vertice, duo-

bus punctis anterioribus et duobus posterioribus in vertice, his at occiput, fuscis; oculis fuscis, palpis flavis, maxillaribus articulo ultimo fuscescente, apice truncato, labialibus articulo ultimo fusiformi, externe stria vel macula nigra signato; antennis fuscis, clava elliptica, inferne longitudinaliter fulva, primo articulo flavo (fig. 3).

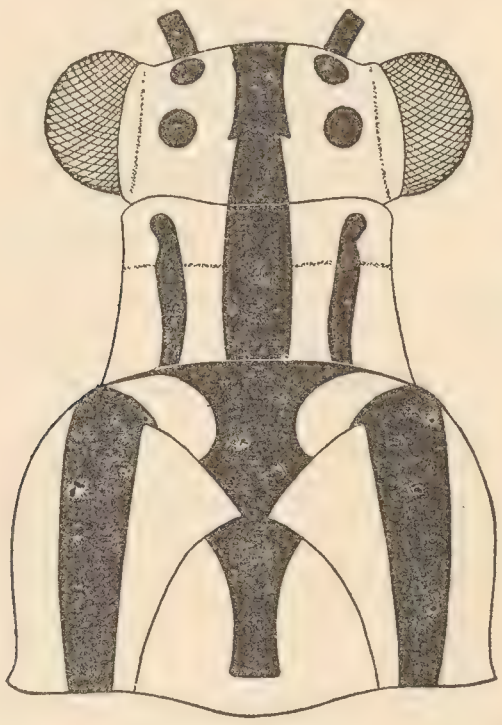

Fig. 3. — *Nohoveus venalis* Nav. : Partie antérieure.

Thorax flavus. Pronotum transversum, marginibus subparallelis, 3 striis longitudinalibus fuscis, lateralibus leviter antrorsum divergentibus, media latiore et integra. Meso- et metanotum tribus striis longitudinalibus latis fuscis (fig. 3).

Abdomen flavum, inferne fascia lata longitudinali, superne tribus fasciis longitudinalibus fuscis.

Pedes flavi, flavo pilosi, fusco setosi; calcaribus testaceis, subrectis, anterioribus primum tarsorum articulum excedentibus, posterioribus eo brevioribus ;

articulis tarsorum apice fuscis, primo paulo breviore ultimo, intermediis brevibus, subaequalibus.

Alae hyalinae, irideae, apice subobtusae, margine externo sub apicem breviter concavo; stigmate flavido; reticulatione plerumque fusca, flavo varia, venis radiali et cubitali subtotis fuscis; area costali angusta, venulis simplicibus.

Ala anterior area apicali serie venularum gradatarum divisa; area radiali 6 venulis internis; sectore radii 8 ramis; inter cubitum et lineam plicatam duplici serie areolarum; area postcubitali sive posteriore simplice, nullis venulis gradatis nisi una vel altera inter postcubitum et axillarem. Reticulatio subtota fusca; subcosta et procubito flavo et fusco striatis; venulis in tertio alae interno flavis.

Ala posterior area apicali sine venulis gradatis, latiuscula, sed minus lata quam in ala anteriore; area radiali 5 venulis internis; inter cubitum et lineam plicatam posteriorem una, ad medium binaserie areolarum; area axillari seu postcubitali simplice, solum 2 venulis inter postcubitalem et axillarem. Reticulatio subtota fusca; subcosta crebre, procubito longiter flavo striatis, postcubito et venulis costalibus et aliis prope basim flavis.

Long. corp.	27.7 mm.
» al. ant.	28.5 mm.
» al. post.	25.6 mm.

Egypte : Wadi Raib (Sud Sinaï) 27.3.1924 (P. A. Clayton).

Cette espèce se distingue nettement à première vue de *Myrmecaelurus trigrammus* Pall. par l'étroitesse des ailes et l'absence des veinules en gradins au

champ apical de l'aile postérieure, ainsi que par la couleur du corps et des ailes et la structure de ces dernières.

24. *Lopezus Fedtschenkoi* Mac Lachl.

Egypte : El Arish (Nord Est Sinaï) 9.5.1917 (H. H. Storey).

Tribu Gymnocnemini Nav.

25. *Maracanda amoena* Mac Lachl.

Egypte : Mazar (Nord Est Sinaï) 9.6.1917 (H. H. Storey).

26. *Gymnoleon lugubris* sp. nov. (fig. 4).

Caput fusco-nigrum, atomo pone antennas et juxta oculos, clypeo et labro fulvis; oculis fuscis; palpis fulvis, vix obscurato ultimo articulo labialium.

Thorax (fig. 4) fusco niger, superne duabus striis longitudinalibus retrimque in pronoto, puncto bino in praescuto et in metanoto, testaceis.

Abdomen subtotum fusco-nigrum, superne aliquot segmentis lateralibus macula parum manifesta ferruginea.

Pedes fulvi, fusco setosi, albido pilosi; femoribus subtotis, tibiis medio et apice, articulis tarsorum apice fuscis.

Alae hyalinae, irideae, acutae, margine externo levissime sub apicem concavo; stigmate pallido; reticulatione pallida, abunde fusco striata; area apicali simplice, sine venulis gradatis.

Ala anterior 7 venulis radialibus internis, 8 ra-

mis sectoris radii; 3 venulis radialibus externis et initio sectoris radii fusco limbatis, striola fusca brevi

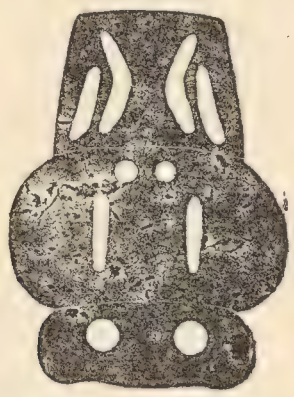

Fig. 4. — *Gymnoleon lugubris* Nav. : Thorax.

ad anastomosim, longiore ad rhegma, fuscis ; stigmate interne late fusco limitato.

Ala posterior pallidior, nullis venulis limbatis ; una venula radiali interna; sectore radii 7 ramis.

Long. corp. ♀	14.5	mm.
» al. ant	16	mm.
» al. post.	15	mm.

Quoique cette espèce provient des côtes du Sud de l'Arabie : Kinina et Merda 13-19.3.1920 (Heald), je la cite ici car elle pourrait bien un jour se retrouver en Egypte.

Tribu Neuroleini Nav.

27. *Neuroleon tenellus* Klug.

Egypte : Wadi Digla (le soir à la lampe) 29-31.5. 1924, 4-5.8.1923, 7.9.1923, 18.9.1922 (C. B. Williams et T. W. Kirkpatrick) ; Meadi 7.5.1915 (Dr. L. H. Gough); Mazar (Nord Est Sinaï) 9.6.1917 (H. H. Storey).

28. *Neuroleon hieraticus* sp. nov. (fig. 5).

Fulvus.

Caput striola obliqua ante singulas antennas, punctis in series transversas pone antennas, in vertice, in occipite, fusco-ferrugineis; oculis fusco-nigris; palpis stramineis; antennis thorace brevioribus, fusco annulatis.

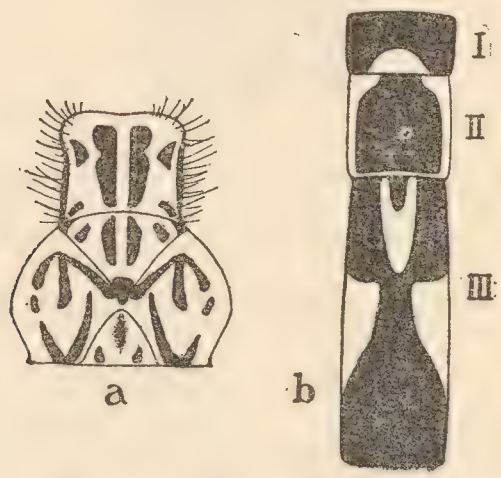

Fig. 5. — *Neuroleon hieraticus* Nav. :
a. Partie du thorax ; b. Partie de l'abdomen.

Thorax (fig. 5 a.) inferne duabus lineis longitudinalibus ad pleuras, parum definitis, fuscis; superne 3 lineis longitudinalibus, media longitudinaliter divisa, lateralibus in meso- et metanoto fractis divisisque. Pronotum latius longitudine, pilis lateralibus albis; margine laterali fusco.

Abdomen (fig. 5 b.) superne fuscum, in tergitis 3 et sequentibus macula basali elongata et alia laterali ad medium fulvis.

Pedes straminei, fusco setosi, femoribus fusco punctatis, tibiis apice fuscis; calcaribus testaceis, modice arcuatis, anterioribus duos primos, posterioribus primum tarsorum articulum superantibus.

Alae acutae, hyalinae, irideae; stigmate albido,

interne leviter fusco limitato ; area apicali angusta, sine venulis gradatis; venulis aliquot fuscis.

Ala anterior 7 venulis radialibus internis : sectore radii 6 ramis; stigmate interne inter 3 venulas fusco; venula radiali substigmati fusca, fuscoque limbata; duplici stria obliqua fusca, ex venulis fuscis fuscoque limbatis, interna brevi ad anastomosim rami obliqui cubiti, externa longiore ad rhegma.

Ala posterior pallidior, nullis venulis limbatis, una venula radiali interna, 7 ramis sectoris radii.

Long. corp. ♂ 17.6 mm., ♀ 16.5 mm.
» al. ant ♂ 15 mm., ♀ 18.4 mm.
» al. post. ♂ 14 mm., ♀ 17.5 mm.

Egypte : Assouan 22.4.1921 (Capt. K. J. Hayward).

29. *Ganussa limbatella* Nav. (*Neuroleon limbatellus* Nav.).

Egypte : Wadi No'oth (Galala) 3.4.1924 (T. W. Kirkpatrick); plaine sablonneuse aux environs de Gebel Um Lebas (Nord Est Sinaï) 6.4.1924 (P. A. Clayton); hauteurs de El Migreh (Nord Est Sinaï) 8.4.1924 (P. A. Clayton).

30. *Nelees inflatus* sp. nov. (fig. 6).

Caput stramineum, stria pone antennas utrimque transversa nigra; vertice linea transverse fusca; occipite macula media fusco-ferruginea; oculis fuscis; palpis stramineis, articulo ultimo labialium fusiformi inflato, externe fuscescente notato.

Thorax stramineus, fusco varius; inferne duplici linea longitudinali fusca ad pleuras; superne tribus

lineis longitudinalibus fuscis, media longitudinaliter divisa. Pronotum (fig. 6 a.) transversum, antrorsum

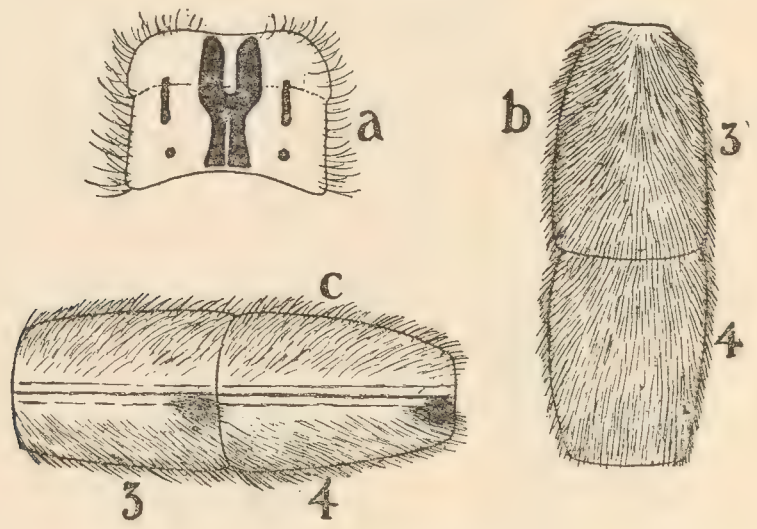

Fig. 6. — *Nelees inflatus* ♂ Nav. :
a. Pronotum ; b. c. Partie de l'abdomen,
vu d'en dessus et de côté.

modice angustatum, linea media fusca fere in Y, alia striola subobsoleta inter ipsam et marginem; pilis lateralibus albis.

Abdomen fuscum, inferne linea media integra, superne linea laterali longitudinali interrupta, fulvis; segmentis 3, 4, 5 (fig. 6 b. c.) inflatis, maxime 4 et pilis fuscis densis hirtis, aliis longioribus in margine posteriore horum segmentorum, ad latera; cercis superioribus ♂ valvae formibus.

Pedes fulvi, albo pilosi, fusco setosi, femoribus externe fuscis; calcaribus testaceis, arcuatis, duos primos tarsorum articulos superantibus.

Alae hyalinae, irideae, acutae; stigmate pallido, interne leviter fusco limitato ; reticulatione albida, venis ad venularum insertionem fusco striatis; sectore radii 7 ramis.

Ala anterior area apicali venulis gradatis divisa; 6 venulis radialibus internis, stria fusca duplici tenui, interna ad anastomosim rami obliqui cubiti, externa antemarginali, venulis gradatis fuscis; axillis furcularum marginalium levissime fusco limbatis.

Ala posterior venulis albidis, area apicali sine venulis gradatis.

Long. corp. ♂	27	mm.
» al. ant.	20.5	mm.
» al. post.	18.3	mm.

Egypte : Wadi Digla (le soir à la lampe) 18.9.1922 (C. B. Williams).

31. *Nelees gracilis* sp. nov. (fig.7).

Fulvus.

Caput (fig. 7) fulvo-testaceum, stria transversa pone antennas fusca; oculis fuscis; palpis gracilibus; antennis anguste fusco annulatis, clava parum dilatata.

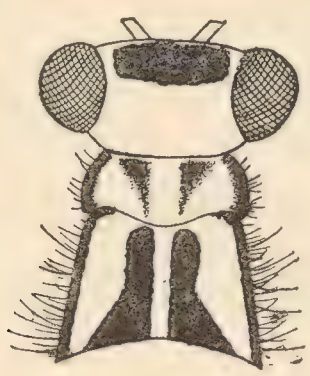

Fig. 7. — *Nelees gracilis* Nav. : Tête et prothorax.

Thorax inferne immaculatus, superne tribus lineis longitudinalibus fuscis, media longiore et longitudinaliter divisa, lateralibus irregularibus. Prothorax (fig. 7) longior latitudine posteriore, antrorsum angustatus, sulco in tertio anteriore sito.

Abdomen fulvum, superne secundo segmento subtoto, sequentibus basi et apice fuscis (apex deest).

Pedes graciles, albido pilosi, fusco setosi, femoribus et tibiis apice fuscis, tibiis superne puncto fusco ante medium; apice articulorum tarsorum fusco; calcaribus testaceis, leviter arcuatis, anterioribus manifeste, posterioribus vix metatarsum superantibus.

Alae acutae, hyalinae, irideae; stigmate pallido, insensibili ; reticulatione pallida, fusco-ferrugineo, abunde varia; venis plerumque ad venularum insertionem striatis.

Ala anterior area apicali serie venularum gradutarum divisa, his venulis et aliis plerisque in disco angustissime fusco-ferrugineo limbatis, sed strias maculasve haud efficientibus; 7-8 venulis radialibus internis; sectore radii 9 ramis.

Ala posterior una venula radiali interna, 8 ramis sectoris; nullis venulis limbatis, multis pallidis.

Long. al. ant.	26	mm.
» al. post.	23.9	mm.

Quoique capturée sur les côtes du Sud de l'Arabie: Kasai 25.3.1920 (Heald), je mentionne ici cette espèce qui pourrait bien un jour se retrouver en Egypte.

32. *Nocaldria scripta* Nav. (*Delfimeus scriptus* Nav., *Insecta*, 1912, p. 224).

Les éperons se distinguaient difficilement sur l'exemplaire d'après lequel j'avais créé le genre *Delfimeus*, et pour cause j'avais assigné aux pattes les caractères : « *Pedes mediocres vel breves, tibiis calcaribus nullis* », lesquels m'avaient erronément induit

à placer le genre précité parmi la tribu des *Gymnocnemini*. J'ai plus tard décrit le genre *Nocaldria* (*Ann. Mus. Civ. Genova*, 1917, p. 362), dont les pattes sont caractérisées comme suit : « *Calcaria primo tarsorum articulo breviora* ».

Les nombreux exemplaires d'Egypte, que je viens d'examiner et que je rapporte à l'espèce *D. scriptus*, m'ont permis de constater que les éperons sont pré-

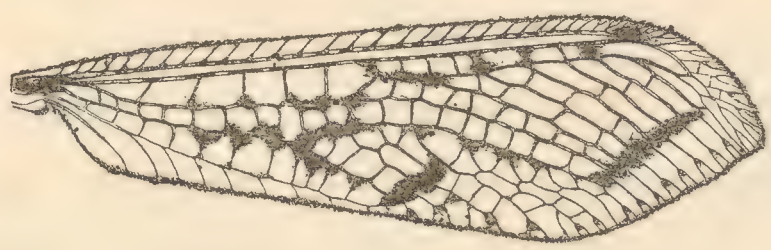

Fig. 8. — *Nocaldria scripta* Nav. : Aile antérieure.

sents quoique difficiles à distinguer. Ils se confondent, la plupart du temps, avec les poils raides des tibias, ou bien encore ils sont appliqués contre les tarses.

La non validité du genre *Delfimeus* étant ainsi établie, c'est dans le genre *Nocaldria* que *scripta* devra prendre place.

La figure 8 représente l'aile antérieure.

Egypte : Solloum 22.5.1917 (Williamson); Wadi Digla (le soir à la lampe) 29-31.5.1924 (C. B. Williams, T.W. Kirkpatrick, A. Alfieri); Wadi Um Elek 5.5.1918 (E. W. Adair).

Tribu Pignatellini Nav.

33. *Macronemurus appendiculatus* Latr.

Egypte : Rafa (Nord Est Sinaï) 9.9.1917 (James).

Palestine : Jaffa 5 et 20.5.1918 (Seabrook).

34. *Micronemurus* Gen. Nov.

Similis *Macronemuro*.

Caput antennis clavatis, thorace brevioribus.

Prothorax transversus.

Abdomen ♂ cercis superioribus longis, cylindricis, basi declivibus.

Pedes calcaribus fere primum tarsorum articulum aequantibus vel leviter superantibus; articulo tarsorum primo elongato, tribus sequentibus brevibus, subaequalibus, quinto longiore primo.

Alae apice subacutae, margine externo convexo, vel vix sub apicem concavo, angulo cubiti aperto; area apicali a stigmate extrorsum sensim ampliata, fortius in ala anteriore.

Ala anterior pluribus venulis radialibus internis, area apicali venulis gradatis divisa.

Ala posterior area apicali fere venulis gradatis destituta; una venula radiali interna.

Macronemurus lepidulus Nav. constitue le type de ce nouveau genre, dans lequel on inclura aussi les *M. pupus* et *M. pupillus*, qui sont également connus d'Egypte.

Micronemurus se distingue de *Macronemurus* par la forme des tarses et surtout par le champ apical des ailes lequel est relativement court et large, tandis qu'à l'aile antérieure il est nettement divisé par une série de veinules disposées en gradins. Le prothorax est aussi plus transverse.

Quoique pareillement très semblable au genre *Geyria* Pet. (*Archiv für Naturgeschichte*, 1920, p. 146), *Micronemurus* s'en distingue nettement par la structure et la simplicité du champ apical de l'aile posté-

rieure, lequel chez *Geyria* est large et divisé par une série de veinules en gradins : « *An Hinterflügeln findet sich Stufenquerader im apical Felde* (*ibid.*, p.147)».

35. *Micronemurus lepidulus* Nav.

Egypte : Suez 17.8.1916 (Dr. L. H. Gough); Kantara 3.8.1916 (A. W. Boyd); Meadi 5.9.1923 (C. B. Williams); Wadi Digla (le soir à la lampe) 18.9.1922, 5.8.1923, 7.9.1923 (C. B. Williams).

36. *Myrmenemurus* Gen. Nov.

Similis *Macronemuro* Costa.

Antennae clava forti, basi minus distantes latitudine primi articuli.

Abdomen ala posteriore brevius in ♀, longius in ♂, cercis ♂ cylindricis.

Pedes calcaribus primum tarsorum articulum superantibus, fere duos primos longitudine aequantibus; tarsis articulo quinto longiore primo, intermediis brevibus.

Alae angustae, area apicali angusta, fere venulis gradatis destituta vel paucis dotata; angulo cubiti parum aperto; area cubitali interna angusta, simplice, externa pauciareolata, fere 2-3 areolis in ala anteriore, 1-2 in posteriore; area radiali aliquot venulis internis in ala anteriore, una in posteriore; nulla linea plicata.

Le type est l'espèce qui suit :

37. *Myrmenemurus clavatus* sp. nov. (fig. 9).

Caput (fig. 9 a) flavum; macula inter et pone antennas, stria transversa in vertice et punctis in occipite, fuscis; oculis in sicco fuscis; palpis flavis, articulo ultimo labialum fusiformi, externe nigro; an-

tennis fuscis, fulvo annulatis, thorace brevioribus, clava forti, duobus primis articulis flavis, externe fuscatis.

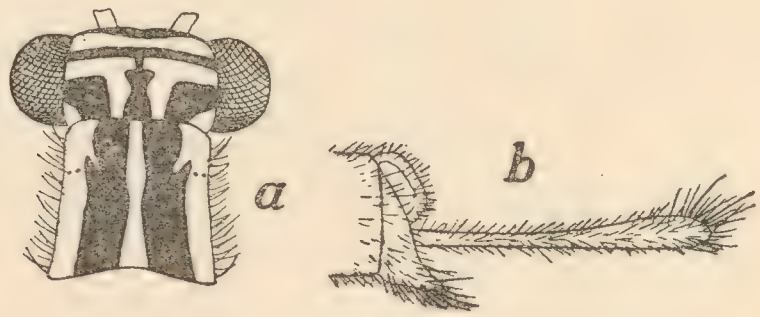

Fig. 9. — *Myrmenemurus clavatus* ♂ Nav. : a. Tête et prothorax ; b. Bout de l'abdomen.

Thorax fuscus. Pronotum (fig. 9 a) leviter transversum, flavum, fascia media longitudinali lata, longitudinaliter subtota divisa, lateraliter ante sulcum dilatata, fusca. Meso- et metanotum striis longitudinalibus incompletis fulvis.

Abdomen ala posteriore ♀ brevius, ♂ illa longius, fuscum, albido pilosum, segmentis intermediis binis vel singulis striis longitudinalibus testaceis ; cercis ♂ longis (fig. 9 b) leviter claviformibus, seu apice dilatatis, flavis, interne fuscis, fusco pilosis.

Pedes flavi, albido pilosi, fusco setosi; femoribus subtotis fuscis, tibiis atomis fuscis respersis; calcaribus testaceis, duos primos tarsorum articulos aequantibus aut superantibus; articulis tarsorum apice fuscis.

Alae hyalinae, irideae, apice subacutae, margine externo levissime sub apicem concavo; stigmate pallido, interne leviter fuscato; reticulatione plerumque fusca, flavido vel albido varia; sectore radii fere 5 ramis.

Ala anterior area costali angusta, venulis simpli-

cibus; area apicali mediocri, in ♂ simplice, in ♀ venulis gradatis divisa; 5 venulis radialibus internis; sectore radii ultra divisionem cubiti orto; area cubitali angusta, longa; area postcubitali simplice, postcubito 2 venulis cum axillari conjuncto; subcosta, radio et procubito flavo et fusco alternatim striatis; aliquot venulis anguste fusco limbatis, duas strias obliquas efficientibus, interna ad anastomosim rami obliqui cubiti, externa ad rhegma, utraque tenui.

Ala posterior nullis venulis limbatis; subcosta fusco et flavido striata; radio subtoto fusco, procubito subtoto pallido; area apicali plerumque simplice, vel une venuall gradata; 2 venulis radialibus internis; sectore radii citra divisionem cubiti orto; area cubitali interna angusta, simplice, externa fere biareolata.

Long. corp. ♂	30.5 mm.,	♀ 22 mm.
» al. ant. ♂	18 mm.,	♀ 21.5 mm.
» al. post. ♂	16 mm.,	♀ 19.5 mm.
» cerc.	2.7 mm.,	———

Egypte : Wadi Ibtadi (désert arabique) 30.4.1925 (A. Alfieri); Ougret el Sheq 13.4.1921 (A. Alfieri); hauteurs de El Migreh (Nord Est Sinaï) 1-4.4.1924 (P. A. Clayton); plaine sablonneuse près Um Lebas (Nord Est Sinaï) 6.4.1924 (P. A. Clayton).

38. *Formicaleo annulatus* Klug.

Egypte : Sollum 5.8.1919 (Allen); Wadi Digla (le soir à la lampe) 18.9.1922 et 7.9.1923 (C.B. Williams).

Tribu Dendroleini Banks

39. *Cordeses oblitus* Nav.

Quoique étant de grandes dimensions les exem-

plaires examinés se rapportent bien à cette espèce. La longueur du corps est de 28 mm., celle de l'aile antérieure de 28 mm., et celle de l'aile postérieure de 25 mm. En outre, les veinules radiales internes de l'aile antérieure sont au nombre de 5, et le nombre des rameaux du secteur du radius est de 7.

Le type de cette espèce avait été créé seulement d'après la ♀ ; mais je viens de reconnaître le ♂, qui me permet de compléter ma description primitive par l'addition des caractères propres à ce sexe.

Caput flavum, vertice et occipite ferrugineo-fuscis; antennis fuscescentibus, duobus primis articulis flavis, pilis nigris brevibus in coronam superne positis.

Pronotum longius latitudine, marginibus lateralibus subparallelis, fascia lata longitudinali media, medio longitudinaliter divisa et stria marginali a sulco retrorsum, fuscis. Mesonotum fusco et flavo varium. Metanotum subtotum fuscum.

Pedes calcaribus testaceis (par suite d'une erreur typographique ces mots avaient été omis dans la description originale).

Alae sectore radii 7 ramis.

Ala anterior subcosta et radio fuscescentibus, basi pallidis; 5 venulis radialibus internis.

Long. corp. ♂	22	mm.
» al. ant.	27.6	mm.
» al. post	25.6	mm.

Egypte : Solloum 5.8.1917 (Allen).

Tribu Creagrini Nav.

Creagrini Navas, *Ann. Soc. Scient. Bruxelles*, 1912, p. 233.

Protoplectrini Tillyard, *Proc. Linn. Soc. N.S. Wales*, Sydney, 1916, XLI, p. 48.

Creolini Tillyard, *Proc. Linn. Soc. N.S. Wales*, Sydney, 1918, XLIII, p. 436.

La tribu des *Creolini* fut créée pour le genre *Creoleon* qui a remplacé le genre *Creagris*, ce dernier disparaissant de la nomenclature de la famille des Névroptères pour avoir passé à la synonymie.

Je rétablis la tribu des *Creagrini* pour suivre le système actuellement adopté par les auteurs, qui est de conserver les noms des familles et des tribus si même les noms des genres desquels elles dérivent tombent en synonymie ou sont abolis.

Cette pratique est d'ailleurs préconisée par le Comité de la Grande-Bretagne dans ses « *Rules of Entomological Nomenclature*, Article 5 : *The name of a family is not to be changed unless it is a homonym*... »

40. *Creoleon gracilis* Klug.

Egypte : Solloum 25.5.1917 et 19.6.1916 (Williamson), 5.8.1917 (Allen); El Dabaa (Mariout) 13.6.1916 (S. H. Hare); Ikinghi-Mariout 15.5.1915 (G. Storey).

41. *Creoleon murinus* Klug.

Egypte : Minieh (Haute-Egypte) 12.10.1916 (Allen).

42. *Creoleon plumbeus* Oliv.

Palestine : Gaza 3.5.1917 (Major S. S. Flower); Jaffa 7.5.1918 (Seabrook).

43. *Creoleon africanus* Ramb.

Egypte : Caire 2.4.1916 (E. W. Adair); Kerdacé

18.4.1924 (Coll. A. Alfieri); Meadi 30.4.1913, 14.4.1914, 15.5.1916, 20.8.1915, 18.8.1916 (Dr. L. H. Gough); Wadi Digla (le soir à la lampe) 7.9.1923 (Coll. A. Alfieri); Maghagha (Haute-Egypte) 10.4.1915 (Dr. L. H. Gough); Oasis de Kharga 12.9.1917 (Dr. L. H. Gough) et 2.3.1924 (C. B. Williams et A. Alfieri).

44. *Creoleon Klugi* nom. nov. (*Myrmeleon irroratus* Klug, *Symb. Phys.*, dec. 4, pl. 35, 8.6. N° 5).

La désignation de Klug est un *nomen mortuum* par suite du nom *Myrmeleon irroratus* d'Olivier qui a la priorité. J'ai donc donné un nouveau nom à l'espèce de Klug, la dédiant à son auteur.

Egypte : Caire 19.10.1916 (E. W. Adair) et 15.6.1916 (coll. A. Alfieri); Ghezireh 20.5.1920 (coll. A. Alfieri); Meadi 25.9.1924 et 28.10.1923 (C. B. Williams), 3.5.1913, 21.9.1915 et 4.9.1916 (Dr. L. H. Gough); Wadi Digla (le soir à la lampe) 20.5.1922, 6.8.1923, 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Kassassine 8.4.1916 (Captain P. Graves); Kantara 1.9.1924 (coll. A. Alfieri).

Palestine : Ludd 18.10.1917 (Captain P. Graves).

45. *Creoleon gularis* sp. nov. (fig. 10).

Similis *Klugi* Nav., major.

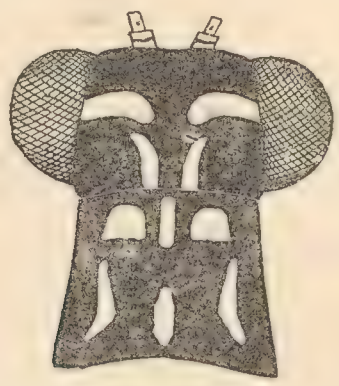

Fig. 10. — *Creoleon gularis* Nav. : Tête et prothorax.

Caput (fig. 10) facie flava, vertice et occipite fuscis, linea transversa in vertice, medio interrupta et duabus striolis longitudinalibus in occipite, fulvis ; oculis fuscis; palpis flavis, ultimo articulo labialium fusiformi, externe fusco maculato; antennis elongatis, clava mediocri, fuscis, fulvo-ferrugineo annulatis, basim versus pallidioribus, primis articulis antice flavis.

Thorax fuscus, albido pilosus. Prothorax leviter transversus, inferne flavus, superne duobus punctis : ante sulcum, duabus striis longitudinalibus pone sulcum et stria media, medio late interrupta, flavidis.

Abdomen fusco-plumbeum, pilis albidis brevibus.

Pedes flavi, albido pilosi, fusco setosi; femoribus subtotis fuscis, tibiis anterioribus fusco punctatis ; calcaribus testaceis, leviter arcuatis, anterioribus tres primos, posterioribus duos primos tarsorum articulos superantibus; tarsorum articulis apice fuscis.

Alae hyalinae, irideae, apice acutae; margine externo late leviterque sub apicem concavo; stigmate parum sensibili, pallido; reticulatione fusco et albido varia ; area apicali serie venularum gradatarum divisa.

Ala anterior venis fusco et albido striatis; radio stria fusca longa basali; venulis multis albidis, fere nullis limbatis nisi levissime ad insertionem; atomo ad rhegma; ramis sectoris tractu fusco notatis; area radiali 7 venulis internis; sectore radii ultra divisionem cubiti orto, 12 ramis.

Ala posterior pallidior, plerisque venulis albidis, radio in medio basali fusco, in medio apicali fusco et

albido striato; sectore radii longe intra divisionem cubiti orto, 13 ramis.

Long. corp.	33	mm.
» al. ant.	31.3	mm.
» al. post.	29.6	mm.

Egypte : Wadi Dabbeh (aux environs de la 5e Tour de la Route de Suez) 2.10.1921 (coll. A. Alfieri).

46. *Creoleon indigus* sp. nov.

Caput fulvum, vel fulvo-ferrugineum; antennis fulvo-ferrugineis; oculis fuscis ; palpis fulvis, articulo ultimo labialium fusiformi, externe fusco; antennis inferne flavis, superne fuscis, fulvo annulatis.

Thorax inferne fuscescens, superne ferrugineus. Pronotum leviter transversum, antrorsum angustatum, margine laterali fusco.

Abdomen fulvum, fulvo pilosum, apicem versus fuscescens.

Pedes fulvi, fulvo pilosi, fusco setosi, apice tibiarum et articulorum tarsorum fusco; calcaribus testaceis, leviter arcuatis, anterioribus tres, posterioribus duos tarsorum articulos superantibus.

Alae hyalinae, irideae, subacutae, margine externo convexo, vel vix sub alae apicem concavo; area apicali lata, serie venularum gradatarum dotata; stigmate pallido, insensibili; sectore radii 8 ramis; reticulatione fulvo-albida, fusco varia; venis fere ad venularum insertionem fusco striatis.

Ala anterior 5-7 venulis radialibus internis; atomo fusco elongato ad rhegma; anastomosi rami obliqui cubiti cum postcubito haud infuscata sive limbata.

Ala posterior pallidior, brevior angustiorque ; une venula radiali interna.

Long. corp. ♂ 34 mm., ♀ 35.5 mm.
» al. ant. ♂ 25.3 mm., ♀ 24.4 mm.
» al. post. ♂ 23.5 mm., ♀ 23 mm.

Egypte : Wadi Digla (le soir à la lampe) 29.5.1922, 29-31.5.1924, 5.8.1923, 18.9.1922 (C. B. Williams); plaine sablonneuse aux environs de Gebel Um Lebas (Nord Est Sinaï) 6.4.1924 (P. A. Clayton), un exemplaire plus foncé en couleur et de dimensions un peu plus grandes : long. 28.5 mm., aile ant. 28.5 mm., aile post. 26 mm.

47. *Pseudoformicaleo nobilis* sp. nov. (fig. 11).

Fuscus.

Caput fulvo-album, linea transversa ante antennas, alia pone antennas, continuis, et aliis duabus ex punctis in vertice et occipite, fuscis; oculis in sicco fuscis; palpis pallidis, gracilibus; antennis thorace longioribus, fulvis, apice articulorum fusco, clava pallidiore.

Pronotum longius latitudine, antrorsum angustatum, antice pallidius, pilis lateralibus et anterioribus albis.

Abdomen griseo pilosum.

Pedes fusci, fusco setosi, albido pilosi; tibiis pallidis, intermediis et posterioribus apice fuscis; calcaribus testaceis, leviter arcuatis, primum tarsorum articulum longum aequantibus aut leviter superantibus; ultimo tarsorum articulo pallido, apice fusco.

Alae hyalinae, irideae, acutae; reticulatione densa; areolis plerumque rectangularibus; area apicali

serie venularum gradatarum dotata; reticulatione albida, fusco leviter varia; stigmate interne ad subcostam fuscato.

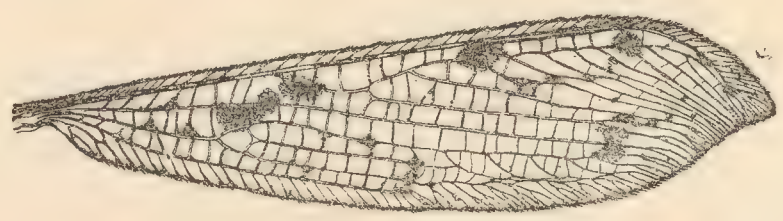

Fig. 11. — *Pseudoformicaleo nobilis* Nav.: Aile antérieure.

Ala anterior (fig. 11) 5 venulis radialibus internis; sectore radii 11 ramis. Aliquot venulae late angusteve fusco limbatae, efficientes tres maculas conspicuas prope medium : internam ex duabus, ad ortum sectoris radii et furcam cubiti, externas citra stigma, alias minusculas ad rhegma, ad anastomosim rami posterioris cubiti.

Ala posterior pallidior, nullis venulis fusco limbatis nisi levissime substigmali et ad rhegma; una venula radiali interna; sectore radii 10 ramis.

Long. corp.	♂	27. 5 mm.
» al. ant.		23 mm.
» al. post.		20.5 mm.

Egypte : Wadi Digla (le soir à la lampe) 18.9.1922 (C. B. Wililams).

N.B. — En ajoutant à cette énumération encore trois ou quatre espèces de Myrméléonides signalés d'Egypte, qui ne figuraient pas parmi les espèces communiquées par Monsieur Anastase Alfieri, on atteindra le chiffre remarquable d'une cinquantaine d'espèces pour la faune égyptienne, chiffre qui à ma con-

naissance est loin d'être dépassé par celui de la faune d'autres régions.

Division de la famille des Myrméléonides en Tribus (1).

1. Ailes grandes, très tachetées de brun ou de noir, les taches plus ou moins disposées en bandes transverses, surtout à l'aile postérieure, d'autres taches éparses plus petites; palpes labiaux très longs, deux à trois fois plus longs que les maxillaires; couleur générale du corps jaune ou jaunâtre, variée de brun et de noir..... ..... 1. *Palparini* Banks

— Ailes peu ou pas marquées; éperons des tibias variables, parfois nuls; palpes labiaux pas beaucoup plus longs que les maxillaires; couleur générale du corps brune ou brunâtre, parfois jaunâtre ou jaune, variée de noir 2

2. Eperons des tibias longs ,forts, courbés, souvent fléchis en angle droit; postcubitus de l'aile postérieure court, aboutissant par anastomose au rameau oblique du cubitus, ce qui rend le champ cubital interne de la même aile court et étroit; taille grande ..... 2. *Acanthaclisini* Nav.

— Eperons des tibias plus faibles, parfois nuls, jamais fléchis en angle droit; postcubitus de l'aile postérieure aboutissant directement à la marge postérieure 3

3. Plusieurs veinules radiales internes ou avant l'origine du secteur (3 ou d'avantage) aux deux

(1) Sont omis les Tribus et les genres non cités dans mon travail.

ailes; éperons toujours présents, pas très forts, souvent plus courts que le premier article des tarses ..... 3. *Myrmeleoni* Nav.

— A l'aile antérieure plusieurs veinules radiales internes ou avant l'origine du secteur; à l'aile postérieure une seule veinule, tout au plus deux .. 4

4. A l'aile antérieure le rameau postérieur du cubitus est long, presque parallèle au rameau antérieur, et s'anastomose en une strie oblique avec le postcubitus qui est aussi long; champ cubital externe de la même aile en général biaréolé à la partie interne ..... 7. *Creagrini* Nav.

— A l'aile antérieure le rameau postérieur du cubitus forme un angle plus ou moins ouvert avec l'antérieur et aboutit directement à la marge postérieure, ne s'anastomosant pas avec le postcubitus; champ cubital externe de la même aile, ou bien après la division du cubitus, pluriaréolé .. 5

5. Pattes sans éperons ou bien avec des éperons très courts ressemblant à des poils; une ou deux veinules radiales internes à l'aile postérieure .... 5. *Gymnocnemini* Nav.

— Pattes avec des éperons bien apparents, en général plus longs que le premier article des tarses; une seule veinule radiale interne 6

6. Pattes grêles et longues, les tibias antérieurs plus longs que les fémurs correspondants; éperons plus longs que le premier article des tarses .... 4. *Dendroleini* Banks

— Pattes plus courtes et plus robustes, les tibias 1 plus courts que leur fémur; article premier des tarses court, les trois suivants très courts, pres-

que égaux, le dernier plus long que le premier. . . . . 6. *Neuroleini* Nav.

1. Tribu Palparins Nav.

Genre unique : *Palpares* Ramb.

2. Tribu Acanthaclisins Nav.

Clé des Genres

1. Prothorax transverse, plus large que long, étroit en avant; éperons très robustes, infléchis en angle droit 2
— Prothorax plus long que large; éperons longs et peu forts, peu courbés jusqu'au bout, égalant les trois ou quatre premiers articles des tarses ; champ costal de l'aile antérieure biaréolé à la moitié interne . . . . . 3. *Phanoclisis* Banks
2. Champ costal de l'aile antérieure biaréolé ou divisé en deux par une série de veinules en gradins . . . . . 1. *Acanthaclisis* Ramb.
— Champ costal de l'aile antérieure étroit, simple, sans veinules en gradins; champ apical avec une série de veinules en gradins . . 2. *Neoclisis* Nav.

3. Tribu Myrméléonins Nav.

Clé des Genres

1. Aile sans aucune ligne plissée nettement indiquée, ni antérieure ou radiale (entre le radius et le procubitus), ni postérieure ou cubitale (entre le rameau antérieur du cubitus et la marge postérieure) 2

— Ailes avec une ou deux lignes plissées longitudinales bien visibles 5

2. Epérons plus courts que le premier article des tarses 3

— Epérons plus longs que le premier article des tarses; ailes larges, à champ apical large, divisé par une série de veinules en gradins, au moins à l'aile antérieure; ligne plissée légèrement indiquée entre le radius et le procubitus .... 3. *Solter* Nav.

3. Postcubitus court, dirigé obliquement à la marge postérieure et relié par des veinules au rameau postérieur du cubitus, sans s'anastomoser avec lui, celui-ci formant un angle ouvert d'environ 45 degrés avec le rameau antérieur; aucune ligne plissée apparente 4

— Postcubitus allongé, presque parallèle au rameau oblique ou postérieur du cubitus qui forme un angle peu ouvert avec le rameau antérieur; ligne plissée postérieure légèrement indiquée; champ apical des ailes divisé par une série de veinules en gradins; aile antérieure d'ordinaire pourvue de quelques stries brunes; abdomen du ♂ avec un appendice latéral en forme de pinceau au bout du septième tergite ..... 4. *Lopezus* Nav.

4. Champ apical des deux ailes large, pourvu d'une série de veinules en gradins .. 1. *Myrmeleon* L.

— Champ apical de l'aile antérieure large, divisé par une série de veinules en gradins; champ apical de l'aile postérieure étroit, sans veinules en gradins ..... 2. *Morter* Nav.

5. Eperons plus courts que le premier article des

tarses 6

— Eperons égalant ou surpassant le premier article des tarses; les deux lignes plissées des ailes clairement visibles 7

6. Corps massif, mésonotum élevé en gibbosité; éperons presque de la longueur du premier article des tarses, celui-ci visiblement plus court que le cinquième article; abdomen chez les deux sexes plus court que l'aile postérieure; ailes à ligne plissée antérieure manifeste; aile antérieure à angle axillaire légèrement saillant, arrondi .. .. 5. *Gepus* Nav.

— Corps plus grêle; éperons beaucoup plus courts que le premier article des tarses, celui-ci aussi long ou plus long que le cinquième; abdomen du ♂ plus long que l'aile antérieure; les deux lignes plissées antérieure et postérieure manifestes aux deux ailes; angle axillaire de l'aile antérieure obtus, arrondi, pas saillant ..... 6. *Cueta* Nav.

7. Eperons égalant ou surpassant légèrement le premier article des tarses qui est beaucoup plus court que le cinquième article; abdomen du ♂ beaucoup plus long que l'aile antérieure, courbé vers le milieu en arc ou en S, avec la partie apicale droite ..... 7. *Nophis* Nav.

— Eperons égalant ou surpassant les deux premiers articles des tarses; abdomen du ♂ plus court que l'aile postérieure, droit, avec une paire d'appendices en pinceaux au bout des tergites 6 et 7 .. 8

8. Champ apical des ailes divisé par une série de veinules en gradins .... 8. *Myrmecaelurus* Costa

— Champ apical de l'aile antérieure divisé par une

série de veinules en gradins, celui de l'aile postérieure simple, sans veinules en gradins .... 9. *Nohoveus* Nav.

4. Tribu Dendroleins Banks

Genre *Cordeses* Nav. (*Mém. Pontif. Rom. Accad.*, 1914, p. 94). Eperons égalant à peu près la longueur des deux premiers articles des tarses; ailes sans aucune ligne plissée; champ apical à veinules en gradins à l'aile antérieure, sans veinules en gradins à l'aile postérieure.

5. Tribu Gymnocnemins Nav.

Clé des Genres

Aile postérieure pourvue de deux veinules radiales internes; ailes obtuses, sans vestige de ligne plissée ..... 1. *Maracanda* Mac Lachl.

— Aile postérieure pourvue d'une seule veinule radiale interne; ailes étroites, aiguës au bout, les antérieures avec un vestige de ligne plissée antérieure ..... 2. *Gymnoleon* Banks

6. Tribu Neuroleins Nav.

Clé des Genres

1. Eperons plus courts que le premier article des tarses; champ apical des ailes sans veinules en gradins, au moins à l'aile postérieure .... 1. *Nocaldria* Nav.

— Eperons plus longs que le premier article des tarses 2

2. Eperons plus courts que les deux premiers articles des tarses; abdomen du ♂ avec les cerques supérieurs valviformes, pas proéminents en forme de queue 3
— Eperons plus longs que les deux premiers articles des tarses pris ensemble; abdomen du ♂ avec des cerques cylindriques proéminents par derrière en forme de deux queues 5
3. Eperons antérieurs un peu plus longs que le premier article des tarses, les postérieurs plus courts; champ apical des ailes sans veinules en gradins ..... 2. *Ganussa* Nav.
— Une partie du champ apical des ailes avec des veinules en gradins 4
4. Champ apical de l'aile antérieure divisé par une série de veinules en gradins, celui de l'aile postérieure sans cette série, tout au plus avec une ou deux veinules ..... 3. *Neuroleon* Nav.
— Champ apical des deux ailes divisé par une série de veinules en gradins ..... 4. *Nelees* Nav.
5. Le champ apical des deux ailes pourvu d'une série de veinules en gradins .... 5. *Macronemurus* Latr.
— Veinules en gradins seulement au champ apical de l'aile antérieure ..... 6. *Micronemurus* Nav.
— Champ apical des deux ailes étroit, simple, sans série de veinules en gradins, tout au plus une ou deux ..... 7. *Myrmenemurus* Nav.

7. Tribu Creagrins Nav.

Clé des Genres

Eperons plus longs que les deux premiers articles

des tarses, dont le premier est beaucoup plus court que le cinquième ..... 1. *Creoleon* Till.
— Eperons ne dépassant pas le premier article des tarses, qui est long, égalant ou surpassant le dernier ..... 2. *Pseudoformicaleo* Weele.

Troisième Assemblée Générale du 18 Février 1926

Présidence de S.E. le Dr. Mohamed Shahine Pacha

Sont lus les Rapports du Secrétaire Général, du Trésorier et des Censeurs.

Messieurs Giovanni Ferrante, H. C. Efflatoun Bey, Elhamy Greiss et Anastase Alfieri, membres du Conseil sortants, sont réélus.

Séance du 18 Février 1926

Présidence de S.E. le Dr. Mohamed Shahine Pacha

Nominations :

Le Conseil de la Société confère le titre de Membre Correspondant à Monsieur le Docteur W. Trautmann, de Lautawerk (Allemagne).

Sont nommés Membres Titulaires : Monsieur le Dr Mohamed Waly et Monsieur Ahmed Zaki, présentés par Messieurs H. C. Efflatoun Bey et Anastase Alfieri; Monsieur Arthur Privat, présenté par Messieurs Gino Mustacchi et Anastase Alfieri.

Décès :

Le Président fait part du décès de notre regretté collègue Monsieur l'Abbé J. J. Kieffer, membre honoraire de la Société.

Echanges :

Se font inscrire pour l'échange mutuel des publications :

1°) La Bibliothèque de l'Agricultural Experiment Station, University Farm, Saint Paul, Minnesota, Etats-Unis d'Amérique;

2°) La Societas pro Fauna et Flora Fennica, Helsingfors, Finlande.

Dons pour la Bibliothèque :

Monsieur le Docteur Professeur Porter, de San-

tiago, Chili, fait parvenir 20 brochures entomologiques diverses.

Monsieur C. H. Curran adresse un exemplaire de ses travaux entomologiques intitulés : Description of four new neotropical Diptera; Four new nearctic Diptera; Some Syrphid Synonymy (Diptera); Descriptions of two insects found in imported foodstuffs; New Canadian Chironomidae of the Genus *Tanypus* (Dipt); Some apparently new nearctic Tabanidae (Diptera); New Exotic Diptera in the American Museum of Natural History; Contribution to a Monograph of the Syrphidae (Diptera) from North Mexico.

Communication

First Note on the Zoocecidia of Palestine

by Dr. F. S. Bodenheimer,

Pal. Zion. Exec. Agr. Exper. Stat., Tel-Aviv, Palestine.

(with 7 figures in the text)

The plant galls of Palestine are not yet well known. We should like to mention the following publications on the subject :

1) Saunders (1865) recorded 7 Cecidia from the

surroundings of the Dead Sea, most of which are undeterminable.

2) Fockeu (1892-1897) described 21 plant galls, from the material collected by Barrois in Palestine, the authors of which are mostly unknown.

3) Ruebsaamen (1902) recorded 7 plant galls from Palestine from the material collected by Bornmueller in the Orient.

4) Bodenheimer (1920-24) mentioned 9 Zoocecidia produced by scale insects.

5) Laing (1924) described *Trioza buxtoni.*

6) Buxton (1924) recorded *Perrisia oleae.*

It is our intention to publish a series of papers on the plant galls of Palestine, in their order of determination.

This first series consists of 50 Zoocecidia. All the well known and described plant galls are quoted : from the fundamental books of Houard on the plant-galls of Europe (1908-13) under E, on those of Africa (1922-23) under A; and from Debski's study (1918) on the Cecidia of Egypt under D. Of these 50 galls there were only 12 known for Palestine. I am indebted to Messrs. N. Naftolsky and U. Feldman for some interesting material.

I. ARTHROPODA

A. INSECTA

a. Lepidoptera

α. Tortricidae

1 — *Evetria buoliana* var. *thurificana* Ld. — E 6259.
On *Pinus pinea* and *Pinus halepensis.*
Distribution : Eur. c. et mer., Palestine.

This moth has two yearly generations in Palestine. The moths of the first generation fly in April, those of the second in September.

They attack especially the 3-7 year old trees, but only the 3-5 year old *Pinus pinea* suffer badly. *Pinus halepensis* which grows rapidly is scarcely injured. But the new branches of this tree also become crooked. In *P. pinea* some of the new branches grow in the form of a rosette. Pupation takes place mostly in the hollow of the branch, rarely in the resinous gall.

Mt. Carmel, Apr. and Sept. 1923-25; Hulda, Apr. 1925.

β. Gelechiidæ

2 — *Phthorimaea heliopa* Lower—Cecidium Novum.

On *Nicotiana tabacum* L.

Distribution : Palestine.

The lower part of the stem of the tobacco plant 10 cms high swells out in the form of a spindle. The further growth of the plant is checked, but the spindle increases considerably both in thickness and length. In June a part of the leaves growing on the spindle become stunted in growth and the other leaves remain small and tufted at the top of the spindle. They are thus useless for the tobacco industry. The moths hatch during June. Within this spindle 3-6 grey caterpillars may be found. Pupation takes place inside the spindle.

Tel Joseph, 7.V.25; Dagania, 7.VI.25.

The above two places where we found these moths, which were until then only known from India, Java and Australia, are situated in the Jordan

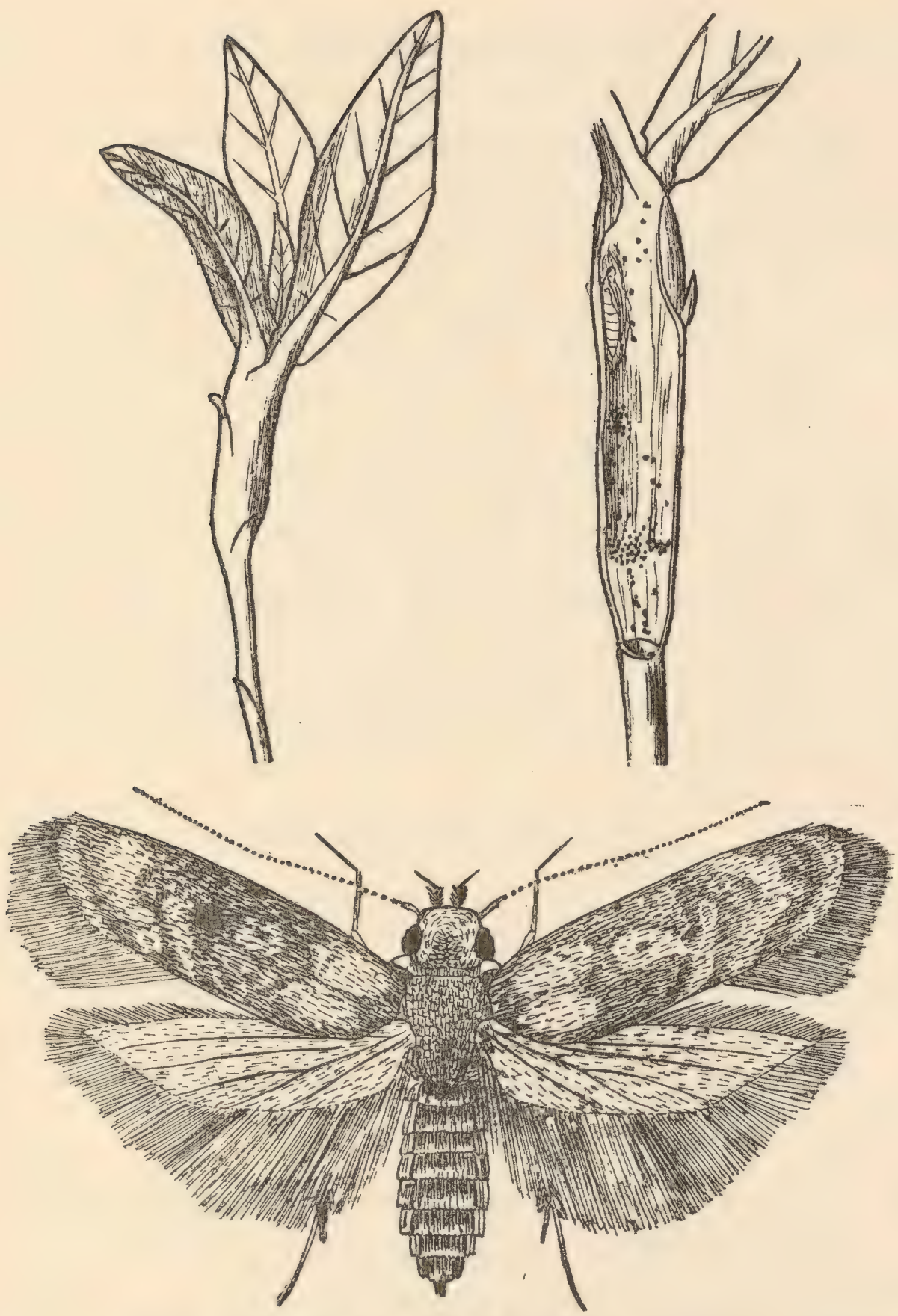

Fig. 1. — Gall caused by *Phthorimæa heliopa* Lower on *Nicotiana tabacum* L. : exterior view of the gall, interior of the gall with pupa and with larvæ excrements, moth.

Valley. This cecidium is similar to that caused by *Lita solanella* Boisd. on *Nicotiana tabacum* in Java (A. 2864).

3 — *Amblypalpis olivierella* Ragenot — A 2066 ; E 4230; Fockeu 1893 (p.35).

On *Tamarix jordanis* and *Tamarix* spp.

Distribution : N. Afr., Sinai, Palestine.

Jericho and surroundings, and on the shores of the Lake of Tiberias throughout the year. Jordan and the Dead Sea 14.-24.IV.1890 (Barrois).

In these common galls I have not found up till now any caterpillars or pupae of the moth, but I have bred on several occasions parasitic hymenoptera from them. These hatched in April and I believe that this month is approximately the hatching time of the *Amblypalpis*. Fockeu too, had only found hymenoptera in these galls. The anatomical structure of this gall leaves no doubt as to its identity.

b. Coleoptera

α. Curculionidae

4 — *Gymnetron hispidum* Brullé — A 2870; E 7319.

On *Linaria* spec.

Distribution : N. Afr., As. Min., Palestine.

Tel Adas, April 1925.

5 — *Lixus ornatus* Reiche, D 1918 (p.16), 1919 (p.27).

On *Amarantus caudatus* (?).

Distribution : Eg., Palestine.

The neck of the root is slightly crooked and swollen. Inside this and the stem there live simultaneously 3-8 larvae, pupae and beetles.

Mikweh Israel, August 1922 ; Shchunath Borochow, July 1922; Tiberias (municipal garden), September 1924.

c. Hymenoptera

α. Cynipidæ

6 — *Rhodites spinosissimae* Giraud—E 1217 (p. 542).
On *Rosa* sp.
Distribution : Eur., Palestine.
Zichron Jacob, 5.VIII.24.

β. Agaonidae

7 — *Sycophaga sycomori* L.—Willcocks 1923 (p.274).
On *Ficus sycomorus* L.
Distribution : Eg., Palestine.
Hulda, April 1924.

d. Diptera

α. Cecidomyidæ

8 — *Asphondylia punica* March. — A 823; E 2208; Fockeu 1896 (p. 504).

Synonym : *A. conglomerata* Ruebsaamen 1902 (p. 256).

On *Atriplex halimus* L.

Distribution : N. Afr., Syr., Palestine.

Very common in spring. Gnats hatch at the end of March and in April.

Dagania, 4.III.25; Tel Aviv (dunes) 10.III.25; Jericho, 13.IV.25. Environs of the Dead Sea, 14.-21.IV. 1890 (Barrois); near Jericho, 1.IV.1897 (Bornmueller).

As inquilinae of these galls Fockeu (1892, p. 231) found *Eriophyes fusiformis* Fockeu, Ruebsaamen

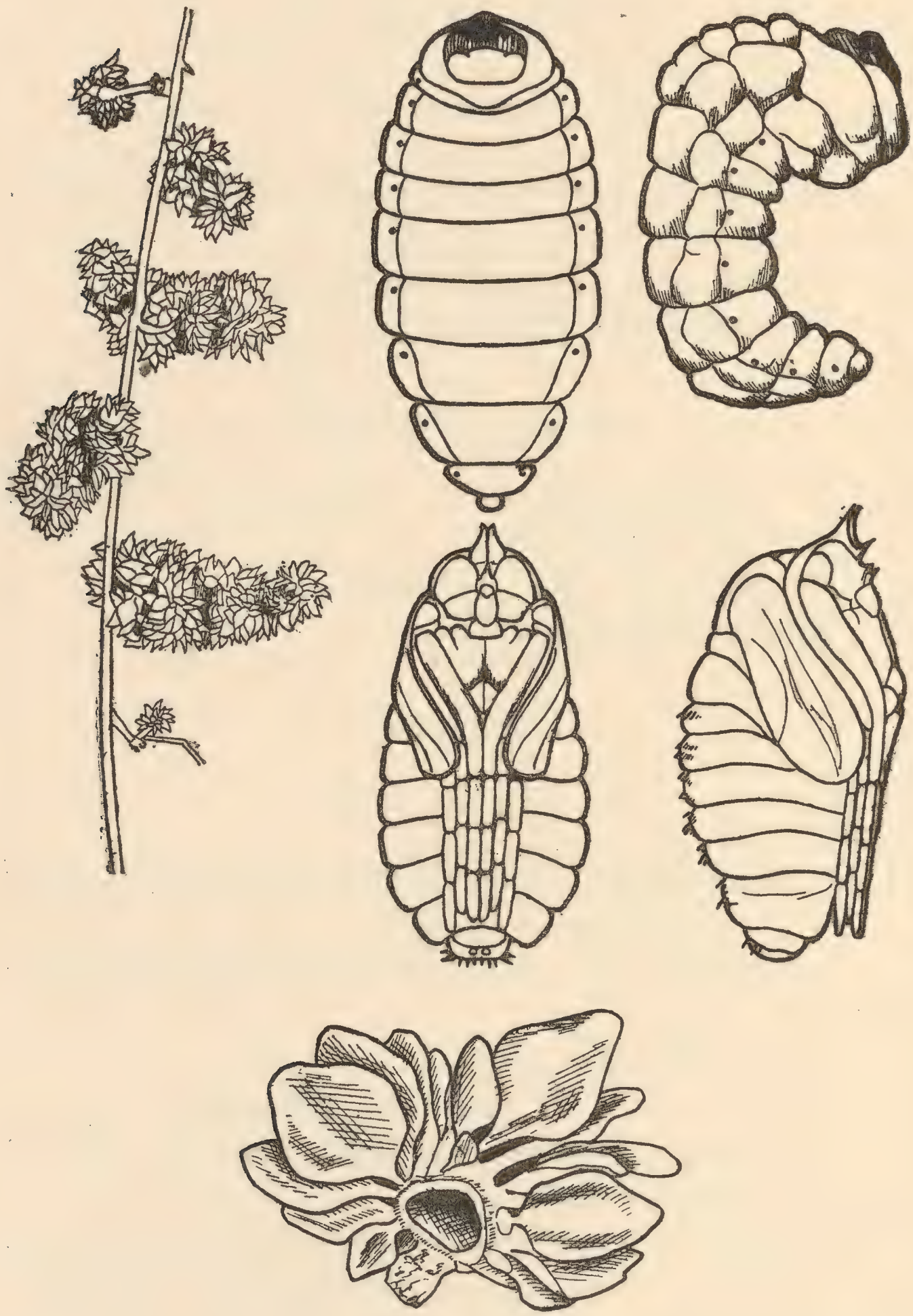

Fig. 2—*Asphondylia punica* Mars. on *Atriplex halimus* L.: view of the gall, ventral and lateral view of larva and pupa, section of a single larval cell.

(1902) a pupa of another species of Cecidomyidae and I myself frequently found black Thysanoptera.

9 — *Asphondylia scrophulariae* Tavares A 2878; E 5065, 7321.
On *Scrophularia syriaca.*
Distribution : Eur. c. et merid., Alg., Palestine.
Tel Aviv (Nordiah), 26.XII.25.

10 — *Perrisia oleae* F. Lw. — A 2600; E 4677.
On *Olea europaea* L.
Distribution : Mediterr.
Petah-Tikwah, 17.VII.24; Es-Salt, 12.VI.23.

β. Muscidæ

11 — *Myopites olivieri* Kieff. — A 3134; E 5629.
On *Inula viscosa.*
Distribution : Eur. merid., Alg., Palestine.
Ain Harod, 21.XI.25; Ayeleth Hashachar.
The flies hatch from September.

e. Rhynchota

α. Tingidæ

12 — *Copium teucrii* Host. — A 2791; E 4765.
On *Teucrium polium.*
Distribution : Eur., Alg., Palestine.
Kiryath Anavim, 16.V.25.

β. Psyllidæ

13 — *Trioza alacris* Flor. — A 1003; E 2470.

On *Laurus nobilis* L.

Distribution : Eur. (exel.N.), Alg., As. Min., Palestine.

Zichron Jacob, 3.V.24.

14 — *Trioza buxtoni* Laing — Laing 1924 (p. 247).

On *Ficus carica* L.

Distribution : Palestine.

On the upper face of the leaves of *Ficus carica* there are a great number of protuberances up to

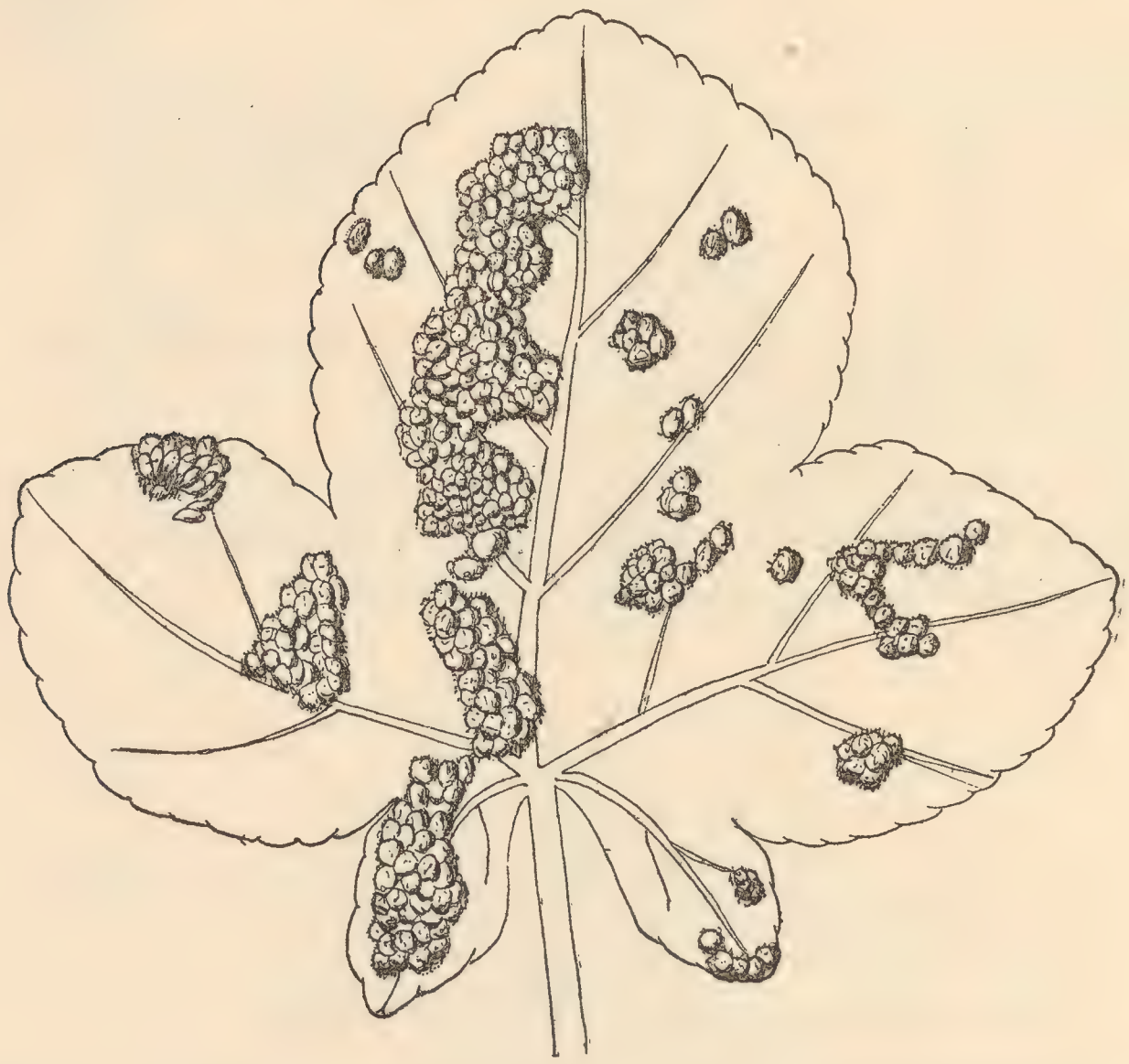

Fig. 3 — Galls produced by *Trioza buxtoni* on *Ficus carica*.

5mms in height, taking the shape of a sugar loaf which are covered with short silver grey hairs. The

interior of the ripe gall is hollow and inhabited by the above-mentioned Psyllids. The aperture of the gall is situated on the lower face of the leaves and is 1-2 mms in diameter. There is only one generation during the year and the imagines appear during February and March.

Jericho, throughout the year; Wadi Kelt, April 1925; Rechoboth, April 1925.

15 — *Pauropsylla willcocksi* Debski — D 14.

On *Ficus sycomorus* L.

Distribution : Eg., E. Afr. (?), Palestine.

Numerous, semi-spherical swellings having an

Fig. 4 — Galls produced by *Pauropsylla willcocksi* on *Ficus sycomorus*.

opening on the lower face of the leaves of 1/2 - 2 mms in diameter.

Tel Aviv, during summer and autumn.

γ. Aphidæ

16 — *Eriosoma lanigera* Hausm. — A 1113, 1117; E 2883.

On *Pirus malus* and *Pirus communis*.

Distribution : Cosmop.

Petah Tikwah, 7.X.22; Tel Aviv, IX.25; Rehoboth, 10.VI.22.

17 — *Anuraphis cinerariae* Theob. — Theobald 1922 (p. 54-57).

On *Cineraria* sp. cult.

Distribution : Eg., Palestine.

Fig. 5 — Gall produced by *Anuraphis cinerariæ* Theob. on *Cineraria* sp.

Tel Aviv, April 1924, 1925.

The upper part of the plant is very crooked and stunted, forming an entwined mass.

18 — *Toxoptera aurantium* (Boyer de Fonsc.) — E 3850, 3852.

On *Citrus* spp., especially on Hushhâsh.

Distribution : Mediterr.

Mikweh Israel; 5.VI.22; Yessod Hamaala, 3.VII.22.

During the whole summer the leaves of the top of the *Citrus* spp., especially Hushhâsh, curl together and the black Aphids reside within.

19 — *Aploneura lentisci* Pass. — A 1727; E 3914.

On *Pistacia lentiscus* L.

Distribution : Mediterr., Canar.

Beith Gemâl, 13.IV.25.

20 — *Pemphigus cornicularius* Pass. — A 1739; E 3932.

On *Pistacia terebinthus*.

Distribution : Mediterr.

Dilb, August 1924; Nahalal, September 1924; Jerusalem, September 1924.

21 — *Pemphigus derbesi* Licht. — A 1743; E 3934

Synonym : *P. pallidus* Fockeu 1893 (p. 243).

On *Pistacia terebinthus*, *P. vera*.

Distribution : Syr., Palestine.

22 — *Pemphigus follicularius* Pass. — A 1740; E 3937; Fockeu 1893 (p. 243).

On *Pistacia terebinthus, P. mutica.*
DISTRIBUTION : Medit., Syr., As. Min., Palestine.
Tiberias, April 1892 (Barrois); Huleh, 5.VII.22.

23 — *Pemphigus retroflexus* Courchet — A 1744 ; E 3935; Fockeu 1893 (p. 244).
On *Pistacia terebinthus.*
DISTRIBUTION : Medit., Syr., Palestine.
Huleh, 5.VII.22.

24 — *Pemphigus riccobonii* Stefani—A 1732; E 3921.
On *Pistacia terebinthus, P. vera.*
DISTRIBUTION : Sic., N. Afr., Canar., Palestine.
Safed, 25.VI.25; Huleh, 5.VII.22.

25 — *Pemphigus semilunaris* Pass. — A 1742 ; E 3938; Fockeu 1893 (p. 244).
On *Pistacia terebinthus.*
DISTRIBUTION : Mediterr., Pers., Kurd.
Huleh, 5.VII.22.

26 — *Pemphigus utricularius* Pass.—A 1737; E 3930; Fockeu 1893 (p. 242).
On *Pistacia terebinthus.*
DISTRIBUTION : Mediterr.
Huleh : 5.VII.22.

27 — *Pemphigus* sp. (near *Ceratopemphigus*) — A 1738; E 3931; Fockeu 1893 (p. 244).
On *Pistacia mutica.*
DISTRIBUTION : Palestine.
Jerusalem, November and December 1925.

Key for the Determination of the PISTACIA Galls of Palestine

(except the two cecidia produced by scale insects).

1. The entire leaf is intensively deformed so that it is impossible to recognise its real character .. 2
— Only parts of the leaf are deformed, and it can be recognised at first sight as a leaf gall 3
2. The gall appears in the form of a flat pouch, 5-20 cms long, and is shaped like a carob pod (caroub de Judée). It is of a red and green colour and the interior is hollow .... *Pemphigus cornicularius* Pass. (Fig. 6).
— The gall is split up in numerous small pouches with hollows as large as peas or beans ..... *Pemphigus* sp. (near *Ceratopemphigus*) (Fig. 9).
3. The galls spread over the entire length of the leaf 4
— The galls take up only a part of the length of the leaf 5
4. The margins of the leaves are simply folded without the formation of a pouch .... *Eriophyes stefanii* Nal. (Fig. 1).
— The leaf is folded in its entire length and forms a continuous pouch which, owing to notching, appears like a string of peas. (This characteristic form makes it already easy to recognise these galls when they are still small) .... *Pemphigus riccobonii* (Fig. 5).
5. Narrow foldings on the margin of the leaf. The width of the gall is smaller than the distance from the midrip of the leaf 6

Fig. 6 — The Palestinian *Pistacia* Galls : 1. *Eriophyes stefanii;* 2. *Aploneura lentisci;* 3. *Pemphigus utricularius;* 4. *Pemphigus derbesi;* 5. *Pemphigus riccobonii;* 6. *Pemphigus cornicularius ;* 7. *Pemphigus follicularius ;* 8. *Pemphigus semilunaris;* 9. *Pemphigus* sp.

— The galls are broad and of different shapes .. 8
6. The leaf is folded towards its upper face 7
— The leaf is folded towards its lower face. Length of the gall 2,5 - 4 cms. (Except its folding towards the lower face, it is like *Pemphigus derbesii.*) .. .. *Pemphigus retroflexus*.
7. The galls are smooth, maximum length 2,5 cms. ..... *Pemphigus follicularius* (Fig. 7).
— The galls have slight notches at the continuation of the leaf nerves, up to 4 cms long. .... *Pemphigus derbesii* (Fig. 4).
8. Semilunar galls 9
— Pouch-shaped galls (more or less in the form of a fig with a short joint on the midrip) .... *Pemphigus utricularius* (Fig. 3).
9. Interior margin of the semilunar gall smooth and without notches. — *Aploneura lentisci* (Fig. 2).
— Interior margin distinctly notched. .... *Pemphigus semilunaris* (Fig. 8).

δ. Coccidæ

28 — *Aspidiotus hederae* Vall. — Bodenheimer 1920 (p. 119), 1924 (p. 29).

On *Olea europaea* L.

Distribution : It.; Palestine.

The attacked parts of the heavily infested fruits are stunted.

Gan Shemuel, 5.XI.22; Mozah, Sept. 23.

29 — *Aspidiotus nitrariae* March. — A 1508; E 7004.

On *Nitraria tridentata.*

DISTRIBUTION : Tunis; Palestine.

Wadi near Jisr-el-Gheraniyeh, 18.IV.25.

30 — *Melanaspis inopinata* Leon. — Bodenheimer. 1924 (p. 9).

On *Pistacia terebinthus*.

DISTRIBUTION : Syr., Palestine.

Shallow cavities on the small branches.

Lake of Huleh, June 1922; Nahalal, August 23; Beyrouth, 10.XI.25.

31 — *Epidiaspis gennadiosi* (Leon) — Bodenheimer 1924 (p. 9).

On *Pistacia terebinthus*.

DISTRIBUTION : Syr., Palestine.

Galls similar to those of Nr. 30.

Lake of Huleh, June 1922.

32 — *Lepidosaphes zlocistii* Bdhmr. — Bodenheimer 1924 (p. 9).

On *Prunus armeniaca*.

DISTRIBUTION : Palestine.

Ben Shemen, September 1923.

33 — *Eulecanium racheli* Bdhmr.—CECIDIUM NOVUM.

On *Vitex agnus castus*.

DISTRIBUTION : Palestine.

Small sugar-loaf shaped protuberances of the leaf on its lower face opposite the spot where the *Eulecanium* had settled on the upper face. The gall is not always present.

Wadi Audja, Jericho, Jisr-el-Ghoraniye, April 1925; Dagania, Tiberias, June and November 1925.

34 — *Asterolecanium pustulans* var. *sambuci* Ckll., D 4 b, 7 a, etc.—Bodenheimer 1920 (p.119), 1924 (p.73).

On *Ficus carica* L., *Acacia farnesiana*, *Nerium oleander*, *Pelargonium* sp.

Distribution : Eg., Palestine.

Annular swellings on the middle-sized branches which are inhabited by the animal.

Petah Tikwah, December 1925; Lake of Galilee, June and November 1925; Tel Aviv, April and September 1925; Gaza, April 1923.

35 — *Asterolecanium variolosum* Ratz. — A 393 ; E 6514.

On *Quercus coccifera*, *Q. lusitanica*.

Distribution : Eur., Medit., N. Amer.

Bodenheimer 1920 (p. 119), 1924 (p. 75).

Nahalal, 5.IX.23.

36 — *Pollinia pollini* (Costa) — Bodenheimer 1924 (p. 9).

On *Olea europaea* L.

Distribution : Mediterr.

Very common throughout the country.

37 — *Eriococcus araucariae* Mash. — Bodenheimer 1920 (p. 119), 1924 (p. 77).

On *Araucaria* spec. (*orientalis* ?).

Distribution : Palestine.

Stunted growth of the needles in the heavely attacked spots.

Tel Aviv, October 1922.

f. Thysanoptera

38 — *Phloeothrips oleae* Costa — A 2599; E 7225.
On *Olea europaea* L.
DISTRIBUTION : Eur. mer., Trip., Syr., Palestine.
Meskha, 16.IX.23; Dagania, 14.IV.24; Beyrouth, 10.XI.25.
Very common plant gall.

B. ARACHNOIDEA

Eriophyidae

39 — *Eriophyes alfierii* Debski — Debski 1919 (p.68-69).
On *Pluchea dioscoridis* L.
DISTRIBUTION : Eg., Palestine.
Numerous shallow or acute protuberances with abrupt sides of mostly irregular surfaces and of a brownish colour on the stem and petiole of the leaves. The interior is occupied by a parenchymatous tissue and the white Eriophyidae. No aperture is visible. Average diameter 2 × 1 - 2 × 1 mm.
Wadi near Jisr-el-Ghoraniye and Wadi Kelt, 17.IV.25.

40 — *Eriophyes barroisi* Fockeu — A 2948; E 5158.
On *Plantago albicans*.
DISTRIBUTION : Syrie, Sinai, Trip., Palestine.
El-Arish, 3.V.25; Gaza, 29.IV.24.

41 — *Eriophyes euricotes* Nal. — A 2838; E 4970.
On *Lycium europaeum* L.
DISTRIBUTION : N. Afr., Syr., Madeira, Canar., Palestine.

Jaffa, March 1925; El-Arish, April 1924.

42 — *Eriophyes granati* Can. et Mass. — A 2125; E 4330.

On *Punica granatum* L.

Distribution : Méditerr.

Bethania (Galilee), 16.V.25; Petah Tikwah, 29.VII.25 and 18.XI.25.

43 — *Eriophyes ilicis* Can. — A 492; E 1985; Fockeu 1892 (p. 232).

On *Quercus coccifera, Q. lusitanica, Q. ithaburensis.*

Distribution : Mediterr.

Mt. Tabor, 18.IV.1892 (Barrois); Nahalal, 15.IX.23, 6.III.24; Mt. Carmel, 9.IX.24.

Fockeu 1892 (p. 232) mentions *Phyllocoptus rostratus* Fockeu as an inquilin of this gall.

44 — *Eriophyes massalongi* Can. — A 2745; E 4751-52.

On *Vitex agnus castus* L.

Distribution : Méditerr.

Dagania, June and December 1925.

These galls begin to develop in May and can be found throughout the summer until the plants wither. Up till May the plants are free but they are heavily attacked during the summer.

45 — *Eriophyes rubii* Can. — A 3033; E 5321.

On *Rubia olivieri.*

Distribution : Eur. mer., Alg., Palestine.

Kiryath Anavim, 16.V.25.

46 — *Eriophyes salviae* Nal. — A 2809; E 4874.
On *Salvia verbenaca.*
Distribution : Eur. c. et mer., N. Afr., Cyp., Palestine.
Tel Aviv (Auja river), 7.III.25.

47 — *Eriophyes stefanii* Nal. — A 1726; E 3913.
On *Pistacia lentiscus* L.
Distribution : Mediterr.
Nahalal and Mt. Carmel, September 1924.

Fig. 7 — « Wirrzopf » produced by *Eriophyes triradiatus* on *Salix babylonica.*

48 — *Eriophyes triradiatus* Nal. — A 223, 231; E S.1 (p. 132).

On *Salix babylonica* and *S. safsaf*.

Distribution : Eur., Alg., As. Min., Palestine.

Beisân, 6.IV.23; Tabgha, 14.XII.25.

Houard believes this species to be the author of the « wirrzoepfe » of the *Salix* species.

49 — *Phytoptus vitis* Landois — 1886; E 4111.

On *Vitis vinifera*.

Distribution : Mediterr. and Cape Colony.

Mikweh Israel, 22.VIII.23.

Very common throughout the country.

II. VERMES

Nematodes

50 — *Heterodera radicicola* (Graeff.) — A 2852, 2853; E 4987, 4988; D 1,3.

On *Solanum melanogena*, *S. lycopersicum*, *Jasminum commune*, *Daucus carota*, *Albizzia lebbek*, *Antirrhinum* sp.

Distribution : Cosmopol.

This species occurs sometimes in Palestine in large numbers especially on heavy soils irrigated during the summer. The injury has up till now not been of economic importance.

Mikweh Israel, Dagania, Kinereth, Benjamina, December 1925; Tel Aviv, every summer.

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Séance du 25 Mars 1926

Présidence de M. le Dr. B. Debski, *Vice-Président.*

Bureau du Conseil :

Aux élections pour la constitution du Bureau du Conseil pour 1926 sont élus :

Maître Giovanni Ferrante et M. le Dr. Bronislaw Debski, Vice-Présidents; Monsieur Anastase Alfieri, Secrétaire Général; Monsieur Richard Wilkinson, Trésorier.

Sont nommés Membres du Comité Scientifique : Messieurs le Dr. Walter Innes Bey, Dr. Bronislaw Debski, H. C. Efflatoun Bey, Anastase Alfieri.

Messieurs le Dr. A. Azadian et E. A. Roche Bey, sont nommés membres Censeurs.

Echanges :

Se fond inscrire pour l'échange mutuel des publications : 1°) La Bibliothèque du Musée de Tromso, Norvège; 2°) La Junta Nacional Directora de la Campana contra la Langosto, Veracruz, Mexique.

Nominations :

Sont nommés Membres Titulaires : Messieurs Adolf Andres et Samir Zulficar, présentés par Messieurs H. C. Efflatoun Bey et Anastase Alfieri.

Communication

Beitrag zur Kentnis Aegyptischer Chrysididen

von W. Trautmann, Lautawerk.

Ich hatte vor kurzem Gelegenheit eine bedeutende Sendung ägyptischer Chrysididen zu untersuchen. Die meisten dieser Insekten stammen aus der Privatsammlungdes Herrn An. Alfieri, eine gewisse Anzahl gehört den Sammlungen der Entomologischen Sektion des agyptischen Landwirtschaftlichen Ministeriums

Ich gebe in Nachfolgenden eine Liste der Arten sowie eine Beschreibung der neuen Species.

1. *Notozus spina* Lep. var. *rufitarsis* Tournier, 23.3.1914.

2. *Ellampus araraticus* Rad. 27.3.1924.

3. *Philoctetes deflexus* Ab., 28.1 - 23.6.1910. (Einige Tiere sind ganz blau).

4. *Hedychridium ardens* Coq. var. *jucundum* Mocs., 11.2.1924.

5. *Hedychridium alfierii* spec. nov. — Cavitas facialis tief muldenförmig ausgehöhlt und in der Mitte fein quer gestreift. Mandibeln an der Basis und an der Spitze schwarz, die Mitte ist

gelb. Fühlerschaft grün, Geissel braun. Kopfscheitel, Thoraxoberseite, Pleurae sind grob und gleichmässig sculpturiert. Abdomentergite sind flach gewölbt und ziemlich grob punctiert. Der Endrand des 3. Abdomentergits ist hyalin und springt an den Seiten zahnartig vor beinahe wie bei *Hedychrum*, zu welchem Genus diese Species hinüberleitet. Behaarung kurz, sparsam und grauweiss, die Cavitas facialis hat keine Silberhaare. Pronotum lang, nach vorn convergierend und meistens in der Mitte längs gefurcht. Vorderkörper dunkelgrün, Abdomentergite kupfergrün, Abdomensternite dunkelbraunschwarz bis gelbbraun, die Beine sind grösstenteils braun bis gelb, die Schenkel der hinteren Beinpaare sind oft schwach violett irisierend. Länge 4-7 mm. (Biskra, Algerien, Timbuktu am Niger, Oase Siwa in Egypten), Kerdacé in Egypten.

6. *Hedychridium alfierii* spec. nov. *rufinistisch* mit unmetallischen Abdomentergiten, rotbraunen Mesopleurae, einem solchen Fleck an der Seite des Pronotum und rotbraunen Beinen. Kerdacé 2.6.1921.

7. *Hedychridium heliophilum* Buysson var. nov. *chlorophyllum*, die ganze Oberseite und Unterseite des Tieres ist grün bis blaugrün, die Schenkel, Tibien und der Fühlerschaft sind grün. Die Cavitas facialis ist oben durch eine scharfe Querleiste abgegrenzt, der Endrand des 3. Abdomentergit ist breit, bei manchen Tie-

ren fast abgestutzt. (Biskra, Tripolis). Kerdacé 2.3 - 15.7.1921.

8. *Hedychridium chakouri* Buysson, Choubrah (Cairo) 10.5.13.

9. *Hedychridium incrassatum* Dahlb. var., mit goldenem Beinen und zerstreuter Abdomentergitsculptur (glänzend) Der starke Längskiel auf Abdomentergit 2 und 3 und der kräftige Querwulst vor dem Endrand des 3. Abdomentergits charakterisieren leicht diese Species. Wenn Buysson, diese Rasse mit dem Speciesnamen *planifrons* belegt hat, so muss sie wegen der Ubergänge zur Nominatsform, die aus Tunis, Marokko und Algir existieren, eingezogen werden. Kerdacé 1.6.1922.

10. *Hedychridium incrassatum* Dahlb. var. nov. *tyro*. — Kopf und Thorax grün, Abdomentergite kupfern, die kräftigen Puncte auf den Abdomentergiten sind am Grunde grün, wodurch das Abdomen wie mit Patina überzogen aussieht, Abdomensternite grün. Kerdacé 2.6.1921.

11. *Hexachridium sexdentatum* Buysson, Gebel Mansuria 15.7.1925.

12. *Hedychrum cirtanum* Gestro, Ikinghi Mariout 23.5.1925.

13. *Hedychrum bouyssoui* Buysson, Abu Rowash 30.7.1925.

14. *Hedychrum chalybaeum* Dahlb. (*coerulescens* Shuckard, *szaboi* Mocs.), Kerdacé 27.5.1921.

15. *Spintharis singularis* Spin. (synonym *Euchroeus oculatissimus* Buysson), Kerdacé 2.6.1921 und Abu Sir (Mariout) 18.4.1925 (var. *virgo* Sem. aus Turkestan hat grünen Vorderkörper und goldene Abdomentergite).

16. *Spintharis bispinosa* Mocs., Assiout 31.3.1917.

17. *Pseudochrysis uniformis* Dahlb., Kafr Hakim 4.3.1925 und Ezbet Nakhlé 2.3.1917.

18. *Pseudochrysis incrassata* Spin. var. *humboldti* Dahlb., Ikinghi Mariout 27.7.1923.

19. *Pseudochrysis bihamata* Spin., 10.4.-17.5.

20. *Pseudochrysis aurifascia* Brullé, Wadi Hoff 9.6. 1922.

21. *Pseudochrysis pallidicornis* Spin., var. *xanthocera* Klug, 10.4-20.8.

22. *Pseudochrysis pallidicornis* var. *chloris* Mocs.

23. *Pseudochrysis pallidicornis* var. nov. *alfierii*, Massara 10.5.-16.7 — Vorderkörper hellgrün, Pronotum und Scutellum meist golden bis goldgrün, erste Hälfte des 3. Abdomentergits grün mit goldenem Längskiel, Rest der Abdomentergite golden bis kupfen. Punctierung der ganzen Körper-oberseite dicht und regelmässig, sie wirkt matt.

Diese Rasse ist noch von Tripolis, Erytrea und von Biskra in Algerien bekannt. Das Stück aus Biskra ist so leuchtend gefärbt wie die *Pseudochrysis krügeri* Brauns.

24. *Pseudochrysis pallidicornis* Spin. var. *eatoni* Buysson, Mansouriah 10.10.1923.

25. *Pseudochrysis abeillei* Grib., 3.3.1924.

26. *Parnopes denticulatus* Spin. (*elegans* Klug, *arabs* Mocs., *nilotica* Morice), Kerdacé 15.8, Abu Rowash 27.6., Katta 12.9.1925.

27. *Parnopes vareillesi* Buysson, Kassassin 9.10.1916.

28. *Parnopes fischeri* Spin., Mazghuna 8.5.1914 und Ghizeh 30.5.1907.

29. *Parnopes fischeri* Spin., (violette Rasse) Cairo.

30. *Cephalochrysis ehrenbergi* Dahlb., Wadi Um Biar 17.2.1924, Wadi Digla 30.5, Kosseir 17.2, Wadi Assiuti 2.2.1917, Massaara 24.4.1914, Ezbet el Nakhlé 27.3.1914.

31. *Chrysidea pumila* Klug, 5.4 - Oktober 16.

32. *Chrysis varicornis* Spin., Cairo

33. *Chrysis varicornis* Spin. var. *separanda* Mocs., 17.3.u.19.4.1907.

34. *Chrysis rubricata* Mocs., Wadi Hoff 1.5 - 12.5.

35. *Chrysis versicolor* Spin. var. *innesi* Buysson, Wadi Hoff 11.5. - 9.6.

36. *Chrysis puella* Buysson, Wadi Hoff 17.2.

37. *Chrysis atechka* Buysson, 1.6 - 7.6, Wadi Hussein.

38. *Chrysis austriaca* Fabr. var. nov. *alfierii* mit grünem Vorderkörper 1.-7.5 und 25.3.

39. *Chrysis quadrispina* Buysson, Wadi Hoff, 11.5-25.7.

40. *Chrysis maculicornis* Klug var. *zobeida* Buysson ♀♀ Wadi Hoff 11.5 - 25.7 und ♂♂, Wadi Hoff 11.5 - 20.8 (synonym var. *abbreviaticornis* Buysson = *helvetica* Mocs. ♂♂).

41. *Chrysis grohmanni* Dahlb. var. nov. *cyanea* — Diese Rasse unterscheidet sich von der ursprünglich durch Buysson beschriebenen Rasse *friesei*, dass sie ganz blaugrün ist und ihr die *goldenen* bis *goldgrünen* Flecke an den *Seiten* des 2. *Abdomentergits* fehlen. Verbreitung : (Biskra, Tripolis, egyptischer Sudan und Egypten) Zeitoun 10.5 und Abou Rouache 4.8.25.

42. *Chrysis grohmanni* Dahlb. var *bolivieri* Mercet, 19.4 - 27.9.

43. *Chrysis viridissima* Klug (*electa* Walk., *fasciolata* Klug) 15.4 - 15.8.

44. *Chrysis laetabilis* Buysson, 19.5.

45. *Chrysis oraniensis* Lucas, 13.2 - 25.2.

46. *Chrysis taczanovsky* Rad., 27.7 - 2.9.

47. *Chrysis taczanovsky* Rad.var. *cerastes* Ab. ♀, 25.7.

48. *Chrysis taczanovsky* Rad. var. *teilhardi* Buysson, 7.5 - 9.6, ♀♀ sehr wahrscheinlich ist *quadrispina* Buysson der ♂ von var. *teilhardi* Buys-

son, da sie zu gleicher Zeit am gleichen Ort vorkommen und die kurzen Geisselglieder 2 and 3 sehr an die von *cerastes* Ab. erinnern.

49. *Chrysis scioensis* Buysson, 28.1 - 8.9.

50. *Chrysis inops* Gribodo, 1.6 - 30.9.

51. *Chrysis aegyptiaca* Mocs., 18.8.25 ?

52. *Chrysis minutissima* Rad., 12.5.1912.

53. *Chrysis comparata* Lep. var. nov.?, 27.5 - 12.7.

54. *Chrysis proxima* Dahlb., 18.7.

55. *Chrysis scutellaris* F. var. *ariadne* Mocs., 10.11.

56. *Chrysis thalhammeri* Mocs., 8.5.1924.

57. *Chrysis chlorospila* Klug (*coelestina* Klug, *octavii* Buysson), 29.8.

58. *Chrysis aestiva* Dahlb., 12.7.

59. *Chrysis laetabilis* Buysson, 10.4. - 14.10.

60. *Chrysis albipilis* Mocs., 29.5 - 15.8.

Eine Anzahl bereits determinierte Arten und einige zur Zeit nicht mit Sicherheit zu identifizierende Species aus der Gruppe der vierzähnigen grünen *Chrysis*.

Séance du 28 Avril 1926

Présidence de S.E. le Dr. Mohamed Shahine Pacha.

Donation :

Monsieur Mohamed Bey Rifaat El Rousmanghy fait parvenir la somme de L.E. 4500.

Nomination :

Le Conseil de la Société confère le titre de Membre Bienfaiteur à Monsieur Mohamed Bey El Rousmanghy.

Echange de Publications :

L'Institut des Recherches Biologiques de l'Université de Perm, Zaimka, U.S.S. Russe, se fait inscrire pour l'échange mutuel des publications.

14ème Congrès International de Navigation :

Le Conseil désigne S.E. le Dr. Mohamed Shahine Pacha, Président, pour représenter la Société à ce Congrès.

Communications

A New Species of *Cerdistus* (Dipt. Asilidae) from Egypt

by H. C. Efflatoun Bey,
Director for Research, Plant Protection Section,
Ministry of Agricultury, Cairo.

Cerdistus (Epitriptus) pallidus nov. sp.

A pale yellowish-grey small species, allied to *cervinus* Lw. but distinguished from the latter by its entirely pure white chætotaxy and pubescence and by its pale reddish-yellow legs.

Male. — Dull yellowish grey. Face moderately wide, being at least one and a half times as wide at the mouth as near the antennæ; frons considerably arched out above the antennæ but contracting again towards the vertex until it is as narrow there as the upper part of the face; frons with from 8 to 10 comparatively short milky white bristly hairs on the ocellar prominence and with some identical hairs down the sides; frons and face densely covered with a shining, pure silvery white tomentum ; face-knob large; face-beard composed of thick, milky white bristly hairs; the sides of the face and mouth are quite bare; chin and jowl-beards entirely white, the latter is composed of rather delicate, long hairs which gradually get shorter as they extend up the

back of the head until they merge almost with the postocular festoon, where they are much shorter and somewhat stouter; bristles of the festoons very short and entirely milky white; back of the head all covered with a similar tomentum as that of the frons, face and jowls. Proboscis and palpi black as usual. Antennæ dull brownish-black; second joint short, being not more than half the length of the first; both these joints bear short white bristly hairs; third joint which is entirely bare is elongate, very narrow ovate and with a style rather more than half as long as the joint itself.

Thorax entirely greyish-yellow or ashy-yellow on the disc with an inconspicuous yellowish-brown middle stripe which is only visible on the apex of the disc owing to the almost complete absence of hairs there; on the humeri, however, it is much paler being covered with a dense yellowish grey tomentum. Pubescence sparce, very pale yellowish and bristly on all the disc, but longer, hair-like and pure white on the humeri. All the bristles are very pale yellowish on the disc and the weaker bristly hairs on the pleuræ as well as those forming the metapleural and hypopleural fans are pure milky white. Scutellum of the same colour as the disc bearing long forward-bent pale yellowish hairs and two equally upturned and pale yellowish marginal bristles; metanotum silvery grey, bare except for two lateral apical tufts of pure white short bristly hairs.

Abdomen very similar in colour to the thorax with the yellow colour decidedly paler and with pale golden-grey hind-marginal hems; pubescence short,

depressed and very pale yellow; it is longer and erected on the puffed out crest on the basal segment and also to a moderate extent on the sides of the second segment and slightly so on the sides of the 3rd & 4th segments; hind marginal fringes composed of white hairs some of which can be called bristles, especially those on the lateral sides of the 2nd, 3rd and 4th segments. Genitalia rather small and narrow, brownish red; claspers simple, narrow, rather pointed and gently bent downwards at the tip, not more than twice as long as broad, enclosing an elongate, ovate depression and baring a similar pale pubescence as that of the abdomen; lower lamellæ very short; shining reddish-brown and devoid of pubescence. Venter white with white pubescence.

Legs entirely orange yellow to pale reddish-yellow except the coxæ & trochanters and extreme apical tarsal joints blackish. Pubescence on legs uniformly short, bristly, adpressed and white. All the bristles are very pale yellowish ; pulvilli elongate oblong, pale yellow; claws black.

Wings entirely hyaline with all the veins yellow except towards their apices brown. Squamulæ pale yellow with short pure white fringes. Halteres pale brownish-yellow.

Female. — Ovipositor black, shining, with a very inconspicuous and sparse white to pale yellowish pubescence.

Length : 11-13.3 mm.

Breadth (wings expanded) : 14.5-17mm.

This species is closely allied to *C. cervinus* Lw.

(= *cretaceous* Beck.) but it is at once distinguished from the latter by its general pale yellowish colouration and small size.

The flies were captured on the sand and a large series was obtained during the months of October and November 1924-25 at Kafr Hakim, Mansouria and Abou Rowash (Giza Province) on the edge of the Lybian Desert.

Ueber eine Bienenausbeute von Aegypten

Von J. D. Alfken, Bremen.

Von meinem Freunde, Herrn Professor Dr. A. Dampf in Königsberg, z.Zt. in Mexiko, erhielt ich eine Sammlung von Bienen, die von ihm während seiner Internierung im Cefangenenlager in Meadi bei Cairo 1919 und gelegentlich einer Studienreise durch Unterägypten im Jahre 1909 gesammelt wurden. Obgleich die Sammlung an Arten nicht sehr reichhaltig ist, so enthält sie doch einige, deren Behandlung den Fachgenossen erwünscht sein könnte. Besonders dürfte die Klarstellung zweier *Megachile*-Arten der *M. argentata*-Gruppe willkommen sein.

1. *Prosopis xanthopoda* Vach., Wadi Hof bei Heluan, 1 ♂, 23.4. 1909. Auf *Zygophyllum*.

2. *Colletes succinctus* L., Cairo, Wüste bei den Pyramiden, 1 ♂, 9.4.1909. In der Nähe der Pyramiden, 2 ♂, 9.4.1909.

3. *C. perezi* Morice, Meadi, 1 ♀, 1 ♂, 8.10.

4. *C. nanus* Friese, Wadi Hof bei Heluan, 2 ♂, 23.4.1909. Auf *Zygophyllum*.

5. *Andrena arsinöe* Schmied., Wadi Hof bei Heluan, 1 ♀, 3 ♂, 23.4.1909. Auf *Zygophyllum*.

6. *A. pseudovatula* Alfk., Senckenbergiana, v. 8, 1926, p. 107, Cairo, Zool. Garten, 1 ♂, 23.4.1909.

7. *Nomia rufiventris* Spin., Meadi, 1 ♀, 18.7. An Blüten von *Pulicaria crispa* Benth. et Hook.

8. *N. edentata* F. Mor., Meadi, 1 ♂, 8.10. An Blüten einer Rhus-Art, eines im Gefangenenlager zwischen hohen Mauern wachsenden Strauches mit unscheinbaren weissen Blütentrauben, die stark beflogen wurden.

9. *N. inermis* F. Mor., Meadi, 1 ♀, 4.8.

10. *N. Magrettii* Grib. (=*latipes* F. Mor.?), Meadi, am Nilufer, 1 ♂, 28.7.

11. *Halictus dampti* sp. nov. ☿. — 9 mm. lang. Schwarz. Kopf wie bei *H. tetrazonius* Klg. gebildet. Oberlippe in der Mitte stark eingedrückt, daneben zwei erhabene Leistchen, mit greisen Haaren überdeckt. Clypeus schwach gewölbt, vorgezogen, seitlich stark eingedrückt, glänzend, mit groberen und schwächeren Punkten zerstreut besetzt. Stirnschildchen gewölbt, glänzend, seitlich dichter, in der Mitte zerstreut und stark punktiert. Wangen und Stirn kaum glänzend, gleichmässig dicht und kräftig punktiert. Scheitel in der Mitte und seitlich zerstreut punktiert. Schläfen breit, ihr Unterrand gerade nach dem unteren Augenrande verlaufend, mit dicht anliegenden weissen Haaren besetzt. Spitze der Fühlergeissel unten braun. Mesonotum fast matt, gleichmässig dicht und ziemlich stark punktiert. Schildchen eben, etwas zerstreuter punktiert. Pronotum, Schulterbeulen. Seiten des Schildchens und das Hinterschildchen dicht und lang abstehend weiss behaart. Mittelfeld des Mittelsegments gleichmässig sehr dicht und fein körnig,

hinten mit mikroskopisch feinen Querriefen. Stutz etwas seidig glänzend, oben mit vereinzelten weissen Härchen besetzt. Seiten des Mittelsegments sehr fein körnig runzelig, unten deutlich quergerieft. Hinterleib lang und schmal (das vorliegende Stück hat den Hinterleib ziemlich stark ausgezogen), die Seiten ziemlich parallel, kaum glänzend, gleichmässig ausserordentlich fein und dicht punktiert. 1. bis 4. Tergit am Hinterrande mit schneeweisser gleichbreiter Filzbinde, auch der Grund der Tergite 2 - 4 mit Spuren von weissem Filz. 1. Tergit am Grunde mit aufrechten weissen Haaren. Härchen neben der Endfurche bräunlich. Sporn der Hinterschienen gelblich, mit 5 sehr kurzen, nach der Spitze schwächer werdenden Dörnchen. Letzte Fussglieder rötlich. Flügel kaum getrübt, am Grunde etwas gelblich. Adern braun, am Grunde, wie das Flügelmal gelblich. Meadi, 1 ♀, 1.9. Auf Bidens. N. 73. Typus in meiner Sammlung.

Zur *H. tetrazonius*-Gruppe gehörig. Die ♀ dieser Gruppe sind ausserordentlich schwer zu erkennen. Walker beschrieb einen *H. nigrinus* von Cairo, List of Hymenoptera collect. in Egypt etc., London 1871, p. 42. Dieser hat der völlig ungenügenden Beschreibung zufolge einen ziemlich grob (roughly) punktierten Metathorax, was auf die vorliegende Art nicht zutrifft. Als Verwandte kommen auch noch die mir nur der Beschreibung nach bekannten *H. minor* F. Mor. und. *H. distinctus* Walk. in Betracht.

12. *H. cattulus* Vach. (= *micado* Strand.), Blüthgen determ., Meadi, am Nilufer, 1 ♀, 1 ♂, 17.10.

13. *H. dives* J. Pér. Blüthgen determ., Meadi,

1 ♀, 7.6. Auf einer Polsterpflanze mit Succulentenblättern und weissen Sternblüten am Nilufer. 2 ♀, 10.7. ; 3 ♀, 8.8. ; 1 ♂, 9.9. *Pulicaria crispa* Benth, et Hook.

14. *Sphecodes verticalis* Hag., Meadi, 1 ♂, 9.7.

15. *Nomioides rotundiceps* Handl., Meadi, 1 ♀, 8.10. An Rhusblüten.

16. *N. turanica* F. Mor., Wadi Hof bei Heluan, 4 ♀, 23.4.1909. Auf *Zygophyllum*.

17. *N. variegata* Ol., Meadi, 6 ♀, 2 ♂, 7.6; 2 ♀, 3 ♂, 9.7; 1 ♀, 3 ♂, 10.7; 1 ♂, 24.7. *Pulicaria crispa;* 4♂, 28.7; 2 ♀, 1 ♂, 4.8; 3♀, 5♂, 6.8; 1 ♀, 7.8; 2 ♀, 2 ♂, 8.8; 1 ♂, 9.8; 1 ♂, 27.8. Acaciablüten; 26 ♀, 5 ♂, 8.10; 1 ♂ , 20.10.

18. *N. fasciata* Friese, Meadi, 1 ♂, 8.10.

19. *Xylocopa aestuans* L., Meadi, 3 ♀, 1 ♂, 27.8. Acaciablüten; 2 ♀, 1 ♂, 13.8. desgl.; 1 ♀, 3 ♂, 18.9 desgl.; 1 ♀, 4.10 Luffablüte; 1 ♀, 22.10.

20. *Anthophora lutulenta* Klug, Meadi, 1 ♀, 9.8; 1 ♀, 21.7. An den Blüten einer kleinen Labiate.

21. *A. punctifrons* Walk., Meadi, 1 ♂, 1,9. Auf Bidens.

22. *Apis mellifica* L. subsp. *unicolor* Ltr. var. *fasciata* Ltr., Meadi, 3 ♀, 10.7; 1 ♀, 1.9. Bidens; 1 ♀, 9.9. *Pulicaria crispa.*

23. *Heriades moricei* Friese, Meadi, 4 ♀, 18.4. *Pulicaria crispa;* 5 ♀, 23.7. Nilufer; 8 ♀, 1 ♂, 4.8.; 2 ♀,

7.8. *Pulicaria crispa;* 1 ♀, 8.8. desgl.; 1 ♀, 27.8. Acaciablüte.

24. *Megachile minutissima* Rad., Meadi, 1 ♀, 10.7.; 1 ♂, 24.7. *Pulicaria crispa;* 2 ♂, 7.8. desgl., 1 ♂, 8.8. desgl. Diese Art ist nicht, wie Friese annimmt, « wohl nur eine Varietät von *M. argentata* », sondern die nächste Verwandte von *M. rotundata* F.

25. *M. submucida* Alfk., Senckenbergiana, v.8. 1926, p. 126. Meadi, 1 ♀, 18.6; 1 ♂, 9.7.; 5 ♀, 1 ♂, 10.7; 4 ♀, 18.7. *Pulicaria crispa;* 2 ♀, 23.7. desgl.; 1 ♀, 25.7.; 4 ♀, 28.7.; 2 ♀, 7.8. *Pulicaria crispa;* 2 ♀, 2 ♂, 8.8. desgl.; 1 ♂, 1.9.; 3 ♂, 9.9. *Pulicaria crispa;* 2 ♀, 8.10. Rhusblüten.

26. *M. apicalis* M. Spin., Amrieh, Kalksteppe, 1 ♀, 30.4.1909. Die Bauchbürste ist bis auf den weissen Grund schwarz gefärbt, im übrigen stimmt das vorliegende Stück mit *M. apicalis* M. Spin. überein. Die Farbe der Bürste ist bei dieser Art veränderlich, selbst bei Stücken gleicher Herkunft.

27. *M. mucorea* Friese, Cairo, nahe der Pyramiden, 2 ♀, 9.5.1909.

28. *M. flavipes* M. Spin., Meadi, Nilufer, 6 ♀, 27.7.; 4 ♀, 8.8.

29. *Crocisa ashabadensis* Rad., Meadi, Nilufer, 2 ♀, 1 ♂, 8.8.

Séance du 22 Mai 1926

Présidence de Mtre G. Ferrante, *Vice-Président.*

Communications

On a small collection of Coccidae from Palestine.

by W. J. Hall, A.R.C.Sc., F.E.S.,

Senior Entomologist, Ministry of Agriculture, Cairo.

The following notes are the outcome of an examination of a small collection received from Dr. F. S. Bodenheimer of the Zionist Agricultural Station, Tel Aviv, Palestine. No new species were represented but three records new to Palestine are interesting and worthy of note.

1. *Aspidiotus herzlianus* Bod.

Bodenheimer, Cocc. of Palestine, p. 30, July 1924. No. C. 656. On *Ephedra campylopoda* (Gnetaceae).

Beth Djemal 13.IV.25.

Ephedra campylopoda is a new host plant for this species which appears to be confined to desert plants. Quite recently I found it on *Pithyranthus tortuosus* (Umbelliferæ) in Wadi Ibtadi, Eastern Desert,

Egypt. My remarks on this record from Egypt are contained in a Bulletin now in the press. It may be pointed out here that *herzlianus* Bod. is devoid of circumgenital glands (type examined) and does not contain four groups as figured and described.

2. *Pinnaspis zillæ* Hall.

Hall, Min of Agric., Egypt, Bull. No. 36, p. 27, (1923).

No. C. 658. On *Calotropis procera* (Asclepiadaceæ).

South Jericho 17.IV.25.

No. C. 666, on *Osyris alba* (Santalaceæ), Wadi Helt opposite the Greek Convent 17.IV.25.

This species has not previously been recorded from Palestine. The infestation in both cases was very heavy and it is interesting to note that both host plants are new. So far as I know *Osyris alba* does not occur in Egypt but *Calotropis procera* is very common.

3. *Chionaspis engeddensis* Bod.

Bodenheimer, Cocc. of Palestine, p. 40, July 1924.

No. C. 660. On *Tamarix* sp., Jordan Bridge 18. IV.25.

No. C. 662. On *Tamarix* sp., Wadi near Jordan Bridge 19.IV.25.

No. C. 667. On *Tamarix* sp., Jordan Bridge 18. IV.25.

This species was described by Dr. Bodenheimer from material collected on *Tamarix* in Engeddi (West bank of the Dead Sea). It comes very close to *C. etrusca* Leon. from which it differs in having very distinct duplex pointed lateral lobes.

4. *Adiscodiaspis tamaricicola* Malen.

Bodenheimer, Cocc. of Palestine, p. 56, July 1924.

No. C. 661. On *Tamarix* sp., Wadi Helt near Jericho 17.IV.25.

This species has already been recorded from Palestine. It appears to be a common species in Egypt and Palestine.

5. *Coccomytilus isis* Hall.

Hall, Min. of Agric., Egypt, Bull. No. 36, p. 21 (1923).

No. C. 668. On *Tamarix* sp., Jordan Bridge 18.VI.25.

This is a new record for Palestine. The material examined was more heavily infected that any I have ever found in Egypt where, not only have I found comparatively few specimens, but there is a tendency for them to occur on the main trunk from which they are not easy to remove except by removing a piece of the bark.

6. *Lepidosaphes intermittens* Hall.

Hall, Min. of Agric., Egypt, Bull. No. 46, p. 7, (1924).

No. H. On a « grass » from the shores of the Lake of Galilee, 14.XII.25.

This is typical *L. intermittens* a species which has not previously been recorded from Palestine.

Two new species of Egyptian Microlepidoptera

by Edward Meyrick

Laspeyresia phaulomorpha, n. sp.

♂. 11-12 mm. Head, palpi light grey. Thorax grey, pale-speckled. Forewings termen slightly sinuate, rather oblique; grey, pale-speckled; costa with alternate groups of very fine strigulæ of whitish or dark fuscous speckling; a broad oblique blotch of irregular white speckling from middle of dorsum, edged anteriorly with dark fuscous suffusion towards fold, and followed by a triangular prætornal spot more or less distinctly edged dark fuscous; ocellus limited by obscure leaden lateral streaks, narrow, enclosing an irregular series of 5 or 6 small black linear dots or marks, extended above obliquely by 2 or 3 more : cilia grey speckled whitish. Hindwings grey ; cilia whitish-grey, a grey subbasal line.

Giza, bred in December from larvæ feeding on leaves of *Sesbania ægyptiaca* (Leguminosæ) (Alfieri) 3 ex.

Choreutis pentacyba, n. sp.

♂. 4-5 mm. Head, thorax white mixed dark grey, face and palpi white. Forewings pale ochreous, irregularly suffused rather dark grey along costa and on margins of white markings ; a suffused white spot towards dorsum about 1/4; a transverse white blotch from dorsum beyond middle reaching 2/3 across wing; a white apical blotch, its edge running straight

from 3/4 of costa to tornus, including a black transverse spot from costa towards apex, and five quadrate black terminal spots separated by fine white lines : cilia white, basal half brassy-grey. Hindwings white; base dark fuscous; a slender dark fuscous terminal streak, with a dark fuscous blotch projecting from it below middle; cilia white, basal fourth dark grey.

Mariout (Hammam), in September (Alfieri); 3 ex. Singularly distinct and striking, remarkable also for its extremely small size; probably attached to some Composite plant.

Culex (Lasiosiphon) Adairi, Nom. Nov.

10

by T. W. Kirkpatrick

Scott Agricultural Laboratories, Nairobi.

In the Bulletin de la Société Royale Entomologique d'Egypte, page 373, 1924 (issued December 1924), I described a new species of *Culex* under the name of *Culex* (*Lasiosiphon*) *pluvialis*.

I have now been informed by Mr. P. J. Barraud that he had previously given this name to a new Indian species of *Culex*, described in the Indian Journal of Medical Research, Vol. XI, No. 4 (issued April, 1924).

I therefore propose to rename the Egyptian species *Culex* (*Lasiosiphon*) *Adairi*; in recognition of the valuable work done by Mr. E. W. Adair on the desert insect fauna of Egypt.

Séance du 16 Juin 1926

Présidence de S.E. le Dr. Mohamed Shahine Pacha.

Dons pour la Bibliothèque :

Le R. P. Longin Navas, de Barcelone, fait parvenir 7 brochures de ses travaux sur les Névroptères.

Communications

On the newly hatched larva of *Monophlebus gymnocarpi* Hall.

by W. J. Hall, A.R.C.Sc., F.E.S.,
Senior Entomologist, Ministry of Agriculture.

The material from which *Monophlebus gymnocarpi* Hall was described (Min. of Agric., Bull. No. 72, p. 1, 1926) did not include the newly hatched larva. Reference has already been made in this Bulletin (p. 128) to the fact that a female was taken in copulation on *Nitraria retusa* in Wadi Ourag on the 2nd April 1926. This female commenced to lay eggs on May 10th and completed laying between 150 and 160 eggs in a mass of loose fibrous tissue on May 25th.

The first larva hatched out on June 1st and by June 13th all had emerged.

The Monophlebinae present considerable difficulty owing to the fact that every stage is of importance for correct determination. Much confusion has arisen through the description of a species from one form alone and in some cases the male has been described under one name and the female under another. It is fortunate, therefore, that in the species under consideration all the more important stages have been found and not the least important of these is the newly hatched larva here described. The fact that it has 5 segmented antennae suggests that it may not have been correct to assign it to the genus Monophlebus but for the present I propose to leave it as it is. Material of all stages has been sent to Mr. Harold Morrison of the Bureau of Entomology, Washington, who is engaged in revising the Monophlebinae and no doubt he will be able to assign it to its correct generic location.

Newly hatched larva oval, reddish brown with black legs and antennae.

Antennae 5 segmented, the terminal segment the longest and inclined to be bulbous followed by the 2nd and 3rd which are usually subequal but in some cases the 3rd is the longer; the basal segment is very little shorter than the 2nd and the 4th is the shortest. Segments moderately hairy.

Limbs well developed. Trochanter with a distinct transverse fold. Femur very slightly longer than the tibia; tibiae and tarsi subequal. Claw long, rather

straight, with a minute denticle on its inner surface near the apex. Ungual and tarsal digitules short, of about the same length, with the former stouter, at least towards the base.

Margin with short very stout rounded spines ; there are usually two of these on all but the last two abdominal segments on either side. The caudal segment carries 4 scattered spines on either side of the median line whilst the penultimate segment carries 3 or 4 usually 4 on either side. The spines are continued right round the margin but in the thoracic region they lose the regular arrangement noted on the abdominal segments and occur at irregular intervals.

Dorsal dermis with long blunted setae; these have no apparent arrangement in the thoracic region but on the abdomen each segment carries six — two set close together in a median position and one midway between the median line and margin and one just within the margin on either side. Ventral dermis with a few scattered short spiniform setae. Caudal setae long between 1/4 and 1/3 the length of the insect.

Mouthparts large, rostral loop extending as far as the posterior extremity. Eyes large and conspicuous. Thoracic spiracles small but associated with a large chitinized area. Seven pairs of abdominal spiracles present; these are minute structures with extremely long and very fine ducts.

Anal tube conspicuous with a frilled collar about its middle, just caudad of this is a ring of large compound pores the tube after this thinning down until at the margin it is of the same diameter as its other extremity.

Near the posterior extremity on the ventral surface is an approximately circular cicatrix.

Dermis with a very few compound discoid pores, these are scattered on the thorax but on the abdomen one is found just marginally of each submarginal long blunt seta. There are extremely few on the ventral surface of the abdominal segments.

Length of newly hatched larva 0.7 mm. Breadth 0.35 mm.

EXPLANATION OF PLATE.

Fig. 1. Newly hatched larva × 125.
This is a composite figure showing the salient features of both ventral and dorsal surfaces.
» 2. The antenna × 290.
» 3. The hind limb × 325.
» 4. Posterior extremity of abdomen — ventral view × 200.
» 5. Posterior extremity of abdomen — dorsal view × 200.
» 6. Abdominal spiracle × many times.
» 7. Thoracic spiracle × many times.
» 8. Discoid dermal pore × many times.

Fig. 1.

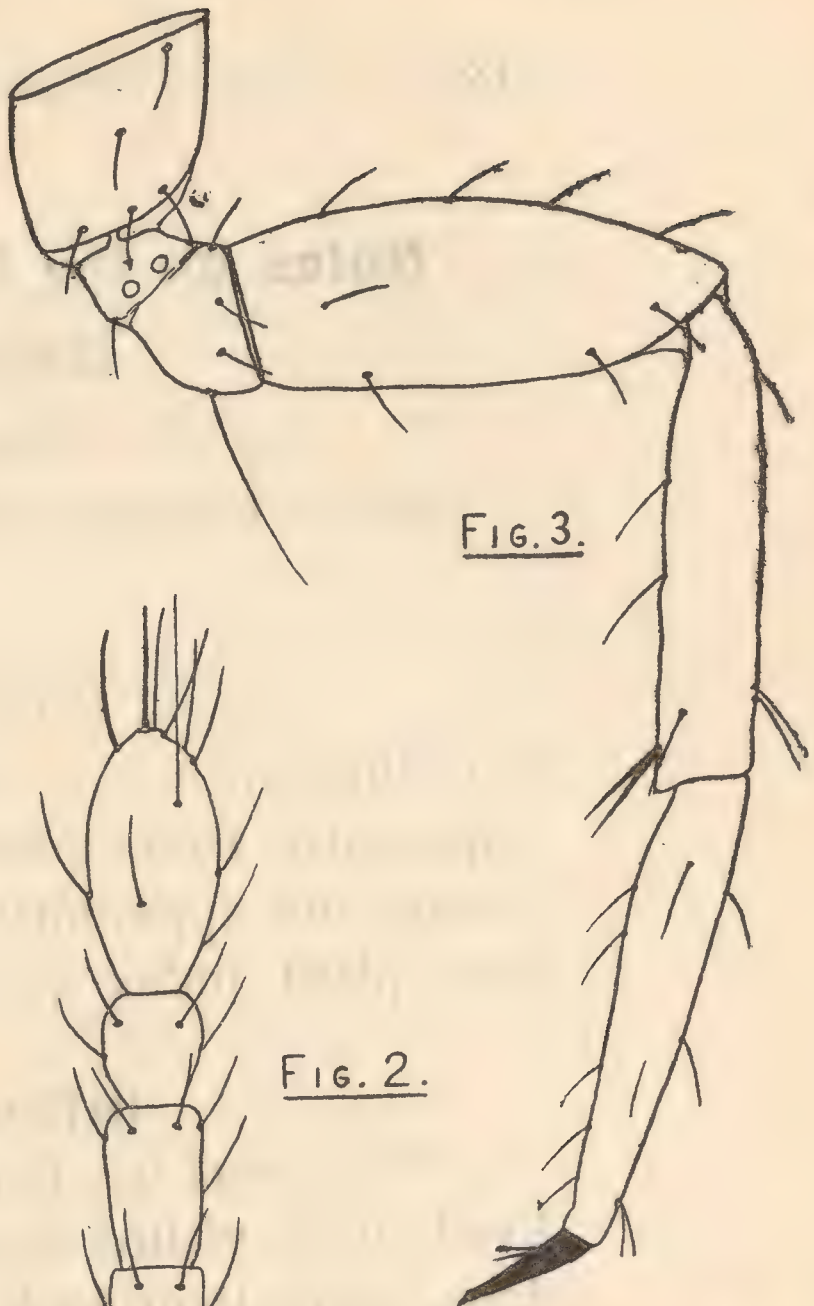

Fig. 3.

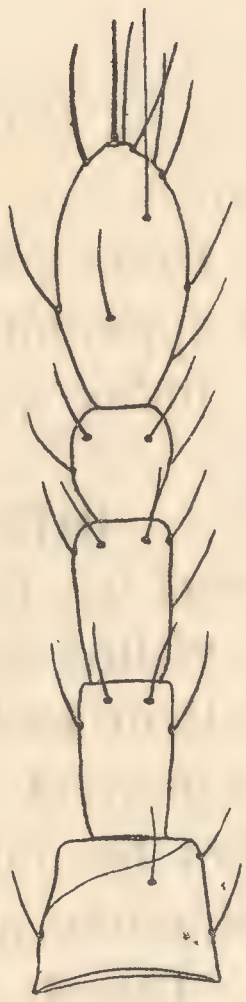

Fig. 2.

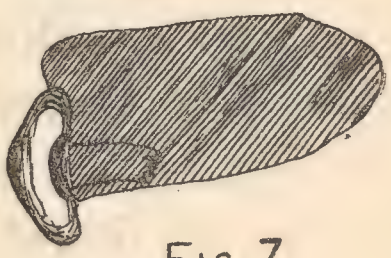

Fig. 7.

Fig. 6.

Fig. 8.

Fig. 4.

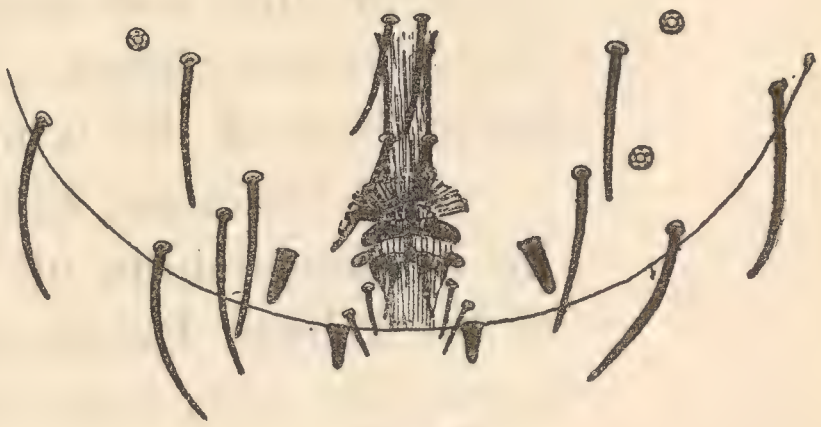

Fig. 5.

W.J.H. *del.*

Notes on the Coccidae of the Eastern Desert of Egypt.

by W. J. Hall, A.R.C.Sc., F.E.S.,
Senior Entomologist, Ministry of Agriculture.

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INTRODUCTION.

The desert is a familiar sight to all who have ever lived in or visited Egypt but few can claim to have done more than look at it from a distance. A few preliminary general remarks on the desert may, therefore, not be out of place.

Approximately 94 % of the country of Egypt is desert land. This is divided into two by the long, and south of Cairo, extremely narrow strip of cultivated land running north and south that comprises the Nile Valley.

The popular conception of a desert is not infrequently one of vast regions of soft sand. It is true that tracts of such soft sand do exist, more particularly in the Western Desert, but they represent a very small percentage of the whole.

The Oases are confined to the Western Desert and lie in depressions of varying sizes in the plateau of the Libyan Desert. Most of the Oases are not easily accessible and a few are extremely inaccessible and

consequently their fauna is, at present, imperfectly known. It is not proposed to deal here, except in isolated cases, with either the oases or the Western Desert.

The Eastern Desert between the Nile and the Gulf of Suez or the Red Sea is mainly composed of rugged and bare limestone hills attaining a height in some places of over 6000 ft. above sea level. These hills and plateaus are intersected everywhere by wadis or dry river beds which have been carved out by the torrents that rush down on the rare occasions when there is a storm. The wadis are rarely in spate for more than a few hours in any one year.

As the rock is weathered down the salty constituent rises to the surface and forms a crisp hard crust. The nature of this crust may best be illustrated by the fact that a car can travel quite well over it but the moment it stops it tends to sink through into the softer sand beneath. When, therefore, heavy rains do occur the water pours off the hills and the plateaus into the wadis and it is for this reason that a storm is followed by a torrential flow in the wadis for a few hours only.

It seems hard to believe that these wadis can be swirling rivers and the infrequency with which it occurs is apt to make one a little sceptical. Those who are acquainted with the Suez Road will remember that it was not at all uncommon for the road to be washed away in two or three places. Indeed so frequent were these washouts that when the road was repaired recently culverts were constructed at all the vulnerable points to preserve the road for the future.

About the middle of March this year (1926) there were very heavy storms over the desert and I was told by an observer that in Wadi Sennur about 20 miles east of Beni Suef that the water was 2 ft. deep and had been very much deeper but was at the time of observation rapidly subsiding. The wadi at the spot in question is known to me to be about 200 yards wide.

About 10 days later I was in Wadi Ourag about 10 miles east of Saff and whilst the water was, then, only present in a few pot holes the force with which it must have come down the wadi could be seen from the fact that all but the well established shrubs had been torn up and had disappeared; those plants and shrubs remaining had been bent right over and in some cases partially torn out of the ground. At one point in the wadi where there was a small cliff some 20 ft. high the water swirling round the base had brought down literally tons of rock. No doubt the rock was cracked and weathered but the fact that one storm could cause the fall of so much rock leads one to believe that the weathering of this type of rock is not such a very slow process.

It is interesting to note in connection with the downpour referred to above that a portion of the British Army undergoing manœuvres in the neighbourhood of Saff were completely cut off by the water coming down to the Nile from the wadis and provisions for a few hours had to be supplied by aeroplane.

Such downpours, however, are local and there may not be such another storm in that area for years;

there may be, of course, light rains but not such as to cause a flow in the wadis. There is no doubt that many desert plants are specially adapted to utilize the dew which at times is very heavy. On one occasion when I was sleeping out in the desert in May my covering blankets were soaked through.

The extremely uncertain rainfall combined with the very high temperature registered during the summer months is such that only a very specialized flora can exist. Indeed so specialized is it that comparatively few forms are found which are common to both the desert and the Nile Valley. Some of those found in the cultivated area can adapt themselves to desert conditions and have spread into the desert. In the neighbourhood of wells and permanent or semi-permanent water the conditions are hardly true desert conditions and more cultivated forms are found. The reverse is also true; in the outliers of desert found in the Delta well known desert forms occur.

As if desert plants had not enough to cope with in the matter of climatic conditions, camels and goats are continually eating them down.

Another popular misconception is that the desert is devoid of life and the idea of a desert flora on the face of it sounds paradoxical. The vegetation is almost entirely confined to the wadis. The crisp salty crust of the hill and plateau, in fact of all but the wadi, has already been referred to. In the wadis the torrential flows of water at irregular intervals have washed all the salt out of the soil. This explains, in part at least, why the vegetation is confined to the wadis. The seeds undoubtedly exist outside the wadis and after rains

young seedlings may be observed, these do not survive long owing partly to their exposed position and partly to the fact that they are probably poisoned off by the salt content of the soil. The roots doubtless do not penetrate to the sandy subsoil and in any case the water content of this is very low because although the same volume of water may fall on plateau and wadi alike in the former case the hard crust causes it to pour off the surface rather than to percolate. Another possible explanation is that wind blown seeds find very litttle soft sand or soil to arrest them and consequently for the most part find their way into the wadis or if they start in the wadis remain in the same locality.

It is not an exaggeration to say that from six weeks to two months after heavy rains the desert may be quite green. It depends, of course, largely when the rains occur. If they are late and followed by a hot spell the young seedlings are killed off before they have time to establish themselves. Normally the vegetation of the desert is of the perennial type with a greater or lesser sprinkling of annuals according to the time of year and nature of rains.

The difficulty of carrying out anything like an extensive study of the desert fauna is primarily its inaccessibility. Camel transport is expensive and the organization of a caravan for those who are not used to it is not easy. It may be considered presumptuous on the part of the author to attempt to write a paper on his limited experience but it is thought that sufficient material and data of interest have been amassed to warrant a short preliminary contribution on the subject.

It is comparatively easy to arrange a day's excursion by car but it is not, of course, possible to penetrate more than a few miles in such a short time. The choice of route has to be made with care or progress is very soon held up by soft sand or boulders. A number of such trips have been undertaken in the neighbourhood of Cairo.

The only really easy way of getting right into the desert is by car along the Suez Road. This road runs from Heliopolis just north of Cairo to Suez right through the desert and as it has recently been repaired it makes it quite easy to get a day's collecting well out in the desert. Apart from various excursions along the Suez Road two big trips into the desert have been undertaken.

1. A fortnight early in May 1925 to the northern face of the North Galala Mountains about 60 miles from Helwan (by camel and foot).

2. A fortnight at the end of February and beginning of March 1926 to Wadi Araba, between the North and South Galala Plateaus, to a point about 85 miles east of Beni Suef — nearly to the Gulf of Suez (by camel and foot).

During these two trips very many wadis were passed and a great quantity of material collected.

Practically the whole of the material dealt with in the present paper has been collected in that part of the Eastern Desert bounded by the Suez Road to the North and a line running due east from Biba to the South.

I am indebted to many gentlemen for bringing

me in material and I have acknowledged this in every case by including the collector's name in brackets immediately after the record of the material collected.

It has already been pointed out that the flora is of a highly specialized type and that few plants are common to both the desert and the Nile Valley. The same also applies to the fauna. The habits of the Coccidae are such that perennials receive more attention than annuals and this is more marked than ever in the Coccid desert fauna where the life of annuals is so very precarious.

Of the 38 species recorded 22 are, so far as is known, indigenous to the desert; the remaining 16 are for the most part not of desert origin but have encroached where the host plant or other plant of the same genus is found or finding suitable host plants have been able to adapt themselves to desert conditions. Some of the species have been found to be widely distributed in the Egyptian desert and it is likely that they extend across the Sinai peninsula farther east and up into the Palestine desert. Certain Egyptian species have already been collected in Palestine by Dr. Bodenheimer. How far they extend to the west is entirely unknown. One species, at least, is common to Algeria and Egypt and as many of our common Egyptian desert plants occur in Algeria it is quite possible that a study of the Algerian desert Coccid fauna may reveal the presence of some of our Egyptian species.

The present paper contains very little that is new but it is thought that bringing together all the in-

formation on the desert species will be of value as a starting point for any student who may subsequently take up the study of the desert fauna of Egypt or neighbouring countries.

Part I.

Apparently true desert species.

There are 18 species which, so far as is at present known, are confined to the desert. For the most part it will be noticed that these attack plants which are confined to the desert. In each case the reference is given to the original description of the species and to Egyptian references. A general description is given of the appearance of the living insect to enable identification in the field. Where the species is referred to as "widely distributed" it means widely distributed in that part of the Eastern Desert under special consideration i.e. that bounded by the Suez Road to the north and by a line running due east of Biba to the south.

1. MONOPHLEBUS GYMNOCARPI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72 p. 1 (1926).

HOST PLANTS.

Caryophyllaceæ	*Gymnocarpus decander.*
Chenopodiaceæ	*Haloxylon schweinfurthii.*
Zygophyllaceæ	*Nitraria retusa.*

PART OF PLANT ATTACKED.

Aerial, usually the smaller branches.

DISTRIBUTION.

Widely distributed, but not yet found on the Suez Road.

DESCRIPTION.

Adult females taken on *Haloxylon schweinfurthii.*

Broadly oval in shape narrowed in front with a flattened frons; broadly rounded behind with a flattened posterior extremity ; highly convex above and flat below. Colour orange some specimens being yellower and others redder. Antennæ and limbs black. Segmentation distinct owing to thin black intersegmental markings which broaden into a conspicuous dark spot midway between the median line and the margin afterwards becoming thin again and finally ending near the margin in a dark spot with two or three others scattered in the vicinity. The general impression is of a longitudinal line of dark spots midway between the median line and the margin, and another line submarginally on either side.

Just behind the frons is a well marked V shaped dark marking resting on a short transverse dark band. The abdominal markings whilst being carried through into the thorax are not quite so regularly arranged in that region.

Length 7 mm., Breadth 4 mm.

Adult females taken on *Gymnocarpus decander.*

Smaller, of a brick red general colouration with a wide longitudinal submarginal dark stripe. In this

case the insect did not show a flattened frons or posterior extremity. The difference in colour and the absence of dark spots give a different appearance from the specimens taken on the *Haloxylon schweinfurthii.*

Length 4.5 mm. Breadth 3 mm.

The single example collected on *Nitraria retusa* resembled those from *Haloxylon* but was of rather a reddish hue.

Adult male salmon pink to brick red in colour. Antennæ and limbs shiny black. Caudal appendages well developed, concolourous with the abdomen. Wings at rest held horizontally over the body. Costal nervure salmon pink. Colour of wings greyish or very pale dull brown, rugose. Body salmon pink with a little white secretionary matter. Mesonotal plates black with a dark red central area. Head and thorax red. Eyes black.

Length 3.5 mm. Wing expanse 7 mm.

Remarks.

Collected originally on *Gymnocarpus decander* in Wadis Gerrawi and Ibtadi on the 4th and 6th May 1925. This host plant is a low growing shrub of a stiff and impenetrable nature — an unpleasant plant to examine. The specimens, also, are extremely difficult to detect owing to their colour being the same as the old leaves and sepals of the flowers. The presence of a white cast skin I found to be a good indication that an individual was somewhere in the vicinity.

The first specimen was a male taken whilst

sweeping one of these shrubs (Alfieri) and although many were examined after this no further success was obtained until two days later a female was taken by sweeping (Efflatoun). This was in a *cul de sac* off Wadi Ibtadi containing about 30 of these shrubs. A careful and prolonged examination of these plants resulted in the capture of about a dozen females and one male. The larval stage and 1st. stage nymph were not taken.

No further specimens were captured until the end of February and beginning of March 1926. A single specimen was taken (Debski) on *Haloxylon schweinfurthii* near the top end of Wadi Suarka on 24.2.26 and later on 4.3.26 it was found to be relatively common on the same host plant in Wadi Araba (55 miles east of Beni Suef). No males were found. No specimens were found on *Gymnocarpus decander* during this trip but this may have been due to the fact that it was so early in the year that this shrub was only just beginning to show signs of life.

On the 2nd April 1926 I was fortunate enough to find a female in copulation on *Nitraria retusa* in Wadi Ourag (East of Saff). There were two males in attendance on the female and another on a twig close by. A careful examination of this and other NITRARIA bushes in the vicinity failed to reveal the presence of any further specimens either female or male. The fertilized female commenced egg laying on May 10th and completed laying a mass of eggs in a very loose tissue of white filaments about the 25th May. The eggs are reddish brown of the usual shape and half milli-

metre in length. Up to the time of going to press no larvæ have hatched out. (*)

2. ANTONINA INDICA VAR. PANICA HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 64, p. 6, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 33, (1926).

HOST PLANT.

Gramineæ *Panicum turgidum.*

PART OF PLANT ATTACKED.

Either aerial or subterranean. In the former case it is usually found either very low down on the grass or at the nodes sheltered by the leaf sheath. A feature of this grass is the proliferation that often occurs at the nodes and within this proliferous growth the insect can usually be found.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Female enclosed in a white felted sac which fits closely round the body of the insect. This sac has an opening to allow for the passage of the proboscis and another aperture at the posterior extremity through which a long white tubular filament projects.

Adult female denuded of sac ovoid, usually narrowed somewhat anteriorly dark brown in colour with a smooth surface. Microscopic preparations show that in old specimens the abdomen is densely

(*) The larvae began to hatch out on June 1st and are being described elsewhere.

chitinized this chitinous development shading off in the thoracic region. The posterior abdominal segments are always heavily chitinized in the adult female.

Length of adult female 2.75-3.25 mm. Breadth 2.25 mm.

Remarks.

A very common species on *Panicum turgidum* in the Eastern Desert. It was originally collected on the Suez Road 1.11.23 (Kirkpatrick) and at Hamet el Abeed 16.11.23 (Kirkpatrick). Later Dr. Debski sent me some material he had collected in a wadi between the 5th and 6th Towers Suez Road on 13.8.22.

It was found to be very common in a small wadi off Wadi Nouega (near the north face of the north Galala Mountains) on 2.5.25. It is interesting to note that the Panicum in this wadi showed the heaviest proliferation I have ever seen. In the main wadi the proliferation was very slight and the insect was also rare. Whilst proliferation is a feature of this plant it seems possible that it may be accentuated by the presence of this particular species. On the other hand it may be that the increased proliferation provides additional shelter and allows the insect to feed and multiply unmolested.

Collected at Geneife 15.6.25 (Housni), 6th Tower Suez Road 31.10.25 (Williams), Abu Sueir 4.11.25 (Housni) Between the 4th and 5th, and 5th and 6th Towers Suez Road 8.12.25, Wadi Araba 3.3.26, Wadi Nashash 5.3.26, Wadi Ghorab 7.3.26, 5th Tower Suez Road 24.3.26, Almaza near Heliopolis 25.5.26 (Taha).

3. **PHENACOCCUS INERMIS** HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 64, p. 7, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 33, (1926).

HOST PLANTS.

Capparidaceæ	*Cleome arabica, C. trinervia.*
Convolvulaceæ	*Cressa cretica.*
Frankeniaceæ	*Frankenia pulverulenta.*
Leguminosæ	*Alhagi maurorum.*
Zygophyllaceæ	*Fagonia arabica, F. mollis, Zygophyllum* spp.

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Adult female ovate to broadly ovate, Naples yellow in colour, covered somewhat sparsely but uniformly with white pulverulent secretionary matter. Marginal filaments wanting. Skin delicate.

At the period of gestation the adult female is enclosed in a shell composed of matted fibres, at the posterior extremity of this shell a mass of eggs is laid in a loose tissue of fibres. The size of the shell is very little larger than the fully developed adult female, the insect decreasing in size as the eggs are laid.

Eggs yellowish.

Length of adult female 2.5 mm. Breadth 2 mm.

REMARKS.

This species is relatively common but it is not

easy to find in any numbers because the individuals are so easily knocked off when the plant is pulled up by the roots and frequently the only indications of its presence are little white patches where the insects had rested.

The original material of this species was given to me by Dr. Debski—on *Cleome arabica* coll. Helwan 5.2.08, on *Cressa cretica* coll. Helwan 25.12.08 and on *Frankenia pulverulenta* coll. Helwan 7.6.10. Later he very kindly gave me fresh material on *Cleome arabica* Helwan 6.12.24 and 20.2.25, on *Zygophyllum* sp. Helwan 20.2.25. It has been found at the edge of the desert at Masara on *Alhagi maurorum* (Taha) 21.2.26 and 12.4.26, and on *Fagonia mollis* 12.4.26 and *Fagonia arabica* 12.4.26 at the same place by the same collector. I have also collected it on *Zygophyllum* sp. near the top end of Wadi Suarka 24.2.26, in Wadi Ghorab 7.3.26 and on *Cleome trinervia* in Wadi Askhar North 27.2.26 and Wadi Araba 4.3.26.

4. PHENACOCCUS ZILLAE HALL.

Bibliography :

Hall, Min. of Agric. Bull. No. 72, p. 5, (1926).

Host Plant.

Cruciferæ *Zilla spinosa.*

Part of Plant attacked.

The small branches.

Distribution.

Fayed near Suez.

DESCRIPTION.

Adult female oval, greyish yellow, with moderate amount of mealy secretionary matter. Segmentation indistinct. Body very soft. Ovisac elongate with fibres composing it slightly elastic. Eggs and larvæ pale brown.

REMARKS.

Only collected once in the desert at Fayed near Suez 5.10.25 (Housni). It seems likely that this is not a very common species as the host plant is a common desert shrub and has been examined on very many occasions. The microscopic characters of this species are very marked.

5. PSEUDOCOCCUS ALHAGII HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 7, (1926).

HOST PLANT.

Compositæ	*Echinops spinosus.*
Leguminosæ	*Alhagi maurorum.*

PART OF PLANT ATTACKED.

On the aerial growth of ECHINOPS and the roots of ALHAGI.

DISTRIBUTION.

On the edge of the desert near Heliopolis and Massara.

DESCRIPTION.

Adult female ovale in outline colour usually pinkish but some examples straw coloured. Mealy secretionary matter sparse but evenly distributed.

Segmentation distinct. Marginal filaments confined to the last two abdominal segments the caudal pair being 1/3 the length of the body. No ovisac was observed.

Length of adult female 2.5-3.5 mm. Breadth 1.75-2.5 mm.

REMARKS.

Collected at the edge of the desert at Masara (Taha) 26.2.26 and at the same place (Taha) 5.4.26. It was later collected in the desert near Heliopolis on the roots of an unknown plant 18.4.26 (Taha).

6. RIPERSIA ARTEMISIAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 10, (1926).

HOST PLANT.

Chenopodiaceæ *Artemisia monosperma.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

The Suez Road.

DESCRIPTION.

Adult female broadly ovate varying from dull rose to a palish dirty yellow green in colour ; specimens of the latter hue predominate and have a somewhat waxy hue. Covering of white secretionary matter thin. Marginal filaments wanting. Just prior to oviposition the adult female becomes entirely enclosed

in a thin leathery sac within which the eggs are laid. Eggs yellowish.

Length of adult female 2.5-3 mm. Breadth 2-2.5. mm.

REMARKS.

This has only been collected on one occasion on the roots of the host plant mentioned at the 6th Tower Suez Road 5.4.25 (Efflatoun). It seems unlikely that it is a common species or it would have been found again.

7. ACLERDA PANICI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 12, (1926).

HOST PLANT.

Gramineæ *Panicum turgidum.*

PART OF PLANT ATTACKED.

The parent stem beneath the leaf sheaths.

DISTRIBUTION.

The Suez Road.

DESCRIPTION.

The true characters of the living insect not certain. All the specimens collected were dark brown and naked with the exception of either a nymph or young adult female that was flesh coloured with a tinge of mauve.

Length of old adult female 3.5-4.5 mm. Breadth 2-2.5 mm.

REMARKS.

The presence of this species was first pointed out to me by Mr. Green who found a single specimen on some *Panicum turgidum* infected with *Odonaspis panici* HALL that I had sent him. This material had been collected between the 4th and 5th Towers on the Suez Road on 8.12.25. The PANICUM at the same spot was carefully examined on 29.3.26 with the result that 2 old adult females (one containing larvæ) 2 young adults and 1 nymph were taken.

I should not be surprised to find this species widely distributed.

8. CTENOCHITON ARTEMISIAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric., Bull. No. 72, p. 15 (1926).

HOST PLANT.

Compositae *Artemisia judaica.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Very common in the wadis east of Beni Suef.

DESCRIPTION.

Adult female broadly ovate, highly convex and dull green in colour. Dorsum moderately leathery speckled with small patches of glassy matter. These patches are small and not conspicuous but they give a speckled and rugose appearance to the dorsum.

Young stages flattish grass green with broad median longitudinal carina the colouration being slightly deeper in the grooves on either side of the carina.

Length of adult female 2,5-3,5 mm. Breadth 1.75-2.5 mm.

REMARKS.

This species was found to be very common on the roots of *A. judaica* at the end of February and beginning of March 1926 in the wadis east of Beni Suef. It was collected in Wadis Sennur, Askhar North, Askhar South, Araba, Abu Rimh, Ghorab, etc.

9. CTENOCHITON HALOXYLONI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric., Bull. No. 72, p. 16 (1926).

HOST PLANT.

Chenopodiaceæ *Haloxylon schweinfurthii.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Adult female broadly ovate to circular in outline, highly convex almost hemispherical. Ventral surface flat. Margin with a series of stout rays some of which are often broken off in old adults. Dorsum rugose with a submarginal suture that runs posteriorly into the anal plates. Dorsum with waxy plates each plate being mound shaped and surrounded by a little ir-

regularly shaped glassy mass suggesting granulated sugar. The plates themselves appear to have some sort of arrangement but this is obscure. The granular masses surmounting the plates give a characteristic appearance. Anal plates dark brown. General colouration of dorsum grey with a tinge of yellow green, in some specimens pink. Old adult females turn darker in colour.

Dorsal dermis very leathery. Ventral dermis with abdominal segmentation very marked in the median area, the submarginal region is without any trace of segmentation but with an inward fold at the junction with the median area. Ventral tissues extremely soft and easily ruptured. Stigmatic pores discernible by a little white secretionary matter. Boiled in potash the insect gives a bottle green colouration to the solution.

Diameter of adult female 2.5-3.5 mm.

REMARKS.

Collected in large numbers between the 5th and 6th Towers Suez Road 8.12.25. Later it was found on the same host plant in Wadi Araba (65 miles east of Beni Suef) on 3.3.26.

10. FILIPPIA EPHEDRAE NEWST.

BIBLIOGRAPHY :

Newstead, Ent. Mon. Mag. Vol. XXXVII, p. 83 (1901).
Lindinger, Die Schildlause, p. 140, (1912).
Hall, Min. of Agric. Bull. No. 22, p. 20, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 40, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 19, (1925).
Hall. Min. of Agric. Bull. No. 72, p. 29, (1926).

HOST PLANT.

Gnetaceæ *Ephedra alte.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Widely distributed. Recently collected in Palestine.

DESCRIPTION.

Female ovisac pure white and very closely felted; very elongate transversely and longitudinally convex or boat shaped.

Adult female yellow green to brown green entirely enclosed at the period of gestation. Eggs pale sepia to pink.

Length of fully developed ovisac 6-10 mm.

Breadth 2-3 mm. Greatest height 2-3,5 mm.

REMARKS.

This species was originally described by Newstead (*l.c.*) from material collected on *Ephedra alte* in Wadi Gerrawi near Helwan by Admiral Bloomfield in 1900. My material is all from the same host plant, near Helwan 24.4.20, near Helwan Feb. 1925 (Debski), Wadi Sheikh Salama 29.4.25, near Wadi Sennur 25.2.26, Wadi Nashash 4.3.26, near Wadi Abu Rimh 5.3.26, Wadi Ghorab 6.3.26. It was found to be very common in these wadis east of Beni Suef ; the specimens were practically all adult females either in the process of egg laying or having just completed it and the young larvæ hatching out.

I have recently heard from Dr. Bodenheimer

that he has collected it in Palestine on *Asparagus* sp.

11. PULVINARIA DISCOIDALIS HALL.

Bibliography :

Hall, Min. of Agric. Bull. No. 36, p. 16, (1923).
Hall, Min. of Agric. Bull. No. 72, p. 31, (1926).

Host Plants.

Chenopodiaceæ	? *Anabasis articulata*
	? *Haloxylon articulatum.*
	Haloxylon schweinfurthii.

Part of Plant attacked.

Aerial.

Distribution.

Widely distributed.

Description.

Adult female approximately circular frosted green in colour due to a little white secretionary matter. Ovisac large approximately circular with a smooth matted surface. The adult female looks like a disc let into the ovisac.

Diameter of adult female 1.25-1.5 mm.

Remarks.

The original material was collected on an unknown host plant at the 7th Tower Suez Road (Alfieri) on 12.10.21. It was collected again on the Suez Road on ? *Anabasis articulata* (Kirkpatrick) 3.9.23 and between the 6th and 7th Towers Suez Road (Kirkpatrick) 16.10.23. On *Haloxylon* ? *articulatum* in Wadi Gharba 30.4.25, on ? Kassanein near Tel el Kebir (Kasem) 4.8.25, on *Haloxylon schweinfurthii* be-

tween the 4th and 5th Towers Suez Road 8.12.25, Wadi Rod el Hamar at the top of Wadi Digla (Simpson) 19.12.25, Wadi Araba 4.3.26 and near the top end of Wadi Suarka 24.2.26.

12. PULVINARIA RETAMAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 17, (1923).
Hall, Min. of Agric. Bull. No. 72, p. 31, (1926).

HOST PLANTS.

Compositæ	*Artemisia monosperma.*
Leguminosæ	*Retama rætam.*
Umbelliferæ	*Pithyranthus tortuosus.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Adult female yellow green to grass green, convex and ovoid. Ovisac white of a type similar to that of *P. mesembrianthemi* VALL. with a closely matted smooth surface. Faint transverse striations are sometimes present and in a few cases faint longitudinal striations giving a delicate fluting.

Length of adult female 4 - 4.5 mm. Breadth 3 - 3.5 mm.

REMARKS.

The original material was collected on *Retama raetam* at the 7th Tower Suez Road (Alfieri) on 12.10.21. Later additional specimens were found

amongst some old unidentified material in the Ministry's collections on ? Abu Roash-Western Desert — (Bolland) 25.4.14, on *Pithyranthus tortuosus* Wadi Tureit Rashid (Adair) 29.5.19, on ? locality ? (Adair) 22.4.21 Dr. Debski gave me some material from his collection 29.4.24 collected on *Retama raetam* on the Suez Road. On *Pithyranthus tortuosus* Wadi Ibtadi 29.4.25 and 3.5.25, Wadi Gerrawi 6.5.25. It was common on PITHYRANTHUS in the two last named wadis but was in no case found on RETAMA. On *Artemisia monosperma* 6th Tower Suez Road 6.4.25, Wadi Hof 1.2.26 (Kasem).

It appears to be commonest on *Pithyranthus tortuosus*.

13. ASPIDIOTUS ARTEMISIAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 20, (1926).

HOST PLANTS.

Compositæ	*Achillea fragrantissima.*
	Artemisia judaica.
	Artemisia monosperma.

PART OF PLANT ATTACKED.

Found on the roots but in cases of heavy infection specimens may be found low down on the aerial growth.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Scale of adult female highly convex but approxi-

mately circular in outline. Pellicles usually eccentric pale green in colour this colour being obscured by a film of white secretionary matter. The area surrounding the 2nd pellicle white shading off into chocolate with the margin again whitish. The general chocolate colouration with white centre is conspicuous in most examples but in some cases the chocolate colouration is only faintly developed whilst in others it is entirely absent rendering the scale uniformly white. Ventral scale entire, dense white, usually remaining attached to the host plant or at least the median portion of it by which it is attached to the plant. In a few cases the ventral scale came away entire with the dorsal scale.

Adult female very pale green.

Male scale white with pellicle greenish obscured by white secretionary matter.

Diameter of scale of adult female 1.25 - 1.5 mm.

REMARKS.

The original material of this species consisted of a few specimens found on the aerial growth of some very small and stunted *Artemisia monosperma* shrubs between the 4th and 5th Towers Suez Road on 8.12.25. Later it was found in small numbers on the roots of *Achillea fragrantissima* near the top end of Wadi Suarka and finally in large numbers on *Artemisia judaica* near the top end of Wadi Suarka on 25.2.26, Wadi Askhar North 27.2.26 and Wadi Askhar South 2.3.26. In these cases the attack was chiefly confined to the roots but where the infection was heaviest the insects were found also on the aerial growth.

One lot of material from Wadi Askhar North although externally identical with *A. artemisiae* was found on microscopic examination to be *Targionia nigra* SIGN.

14. ASPIDIOTUS HERZLIANUS BOD.

BIBLIOGRAPHY :

Bodenheimer, Cocc. of Palestine, Zionist, Agric. Expt. Station, Bull., No. 1, p. 30, (1924).
Hall, Min. of Agric. Bull. No. 72, p. 21, (1926).

HOST PLANT.

Umbelliferæ *Pithyranthus tortuosus.*

PART OF PLANT ATTACKED.

The stems.

DISTRIBUTION.

Wadi Ibtadi and Palestine.

DESCRIPTION.

Egyptian examples show the scale of the adult female circular, pale grey brown in general colouration, with orange pellicles. Ventral scale thin, white, remaining adherent to the host plant when the scale is removed.

Diameter of scale of adult female 1 - 1.25 mm.

REMARKS.

Collected in Wadi Ibtadi 4.5.25. The infection was confined to the aerial growth and was heavy. It is curious that it has only been collected on this one occasion and that the other clumps of PITHYRANTHUS in the vicinity were apparently free from infection.

This species was originally described from speci-

mens taken on *Asparagus aphyllus*, also a desert plant, in Palestine. I have since received specimens from Palestine from Dr. Bodenheimer on *Ephedra campylopoda* Beth Djemal 13.4.25 and on *Asparagus acutifolius* Ain Fara, April 1926.

15. CHIONASPIS NOAEAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 64, p. 13, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 33, (1926).

HOST PLANTS.

Chenopodiaceæ	*Anabasis articulata.*
	Haloxylon schweinfurthii.
	Noœa mucronata.
Gramineæ	*Panicum turgidum.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Widely distributed and Wadi el Arish, Sinai.

DESCRIPTION.

Scale of adult female pear shaped, opaque white, and convex. First pellicle yellow, second straw coloured, both thinly covered with white secretionary matter. Ventral scale entire but very thin, remaining attached to the host plant as a thin white film.

Male scale snowy white, elongate, with sides subparallel; median carina marked but lateral carinæ poorly represented. Pellicle straw coloured.

Length of scale of adult female 1.5 mm. Breadth 1 mm.

REMARKS.

The original material of this species was collected on *Noœa mucronata* in Wadi el Arish, Sinai (Clayton) on 27.12.23. There were very few specimens on this but abundant material was found on *Panicum turgidum* at Ein Musa near Cairo (Taha) on 18.3.25. A few specimens were found on *Haloxylon schweinfurthii* in Wadi Askhar North on 28.2.26 and Wadi Askhar South 3.3.26 and a relatively heavy infection on a bush of *Anabasis articulata* in Wadi Askhar North on 28.2.26. A single specimen was taken on *Panicum turgidum* in Wadi Araba 4.3.26 and abundant material on the same host plant in the desert near Heliopolis 18.2.26.

16. COCCOMYTILUS FARSETIAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 23, (1926).

HOST PLANT.

Cruciferæ *Farsetia ægyptiaca.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

On the edge of the desert near Masara.

DESCRIPTION.

Scale of adult female large, broadly pyriform in outline and unusually convex. First pellicle usually bare and straw coloured, second pellicle orange but obscured by secretionary matter. General colouration of scale a drab dust colour. Ventral scale thin but

entire coming away usually with the dorsal scale.

Length of scale of adult female 2.5-3.25 mm. Breadth 1.5-2 mm.

REMARKS.

Only collected once on the edge of the desert at Massara (Taha) 6.4.26. A large and easily recognizable species.

17. COCCOMYTILUS RETAMAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 24, (1926).

HOST PLANT.

Leguminosæ *Retama rætam.*

PART OF PLANT ATTACKED.

The young stems.

DISTRIBUTION.

Widely distributed and also found in Palestine.

DESCRIPTION.

Scale of adult female small, ovoid, narrowed in front broadest across the middle rounded behind. General colouration a dull dark brown darkest in the middle and shading off through a paler reddish brown to very pale almost white behind. The scale is covered by a thin film of white secretionary matter; the pellicles are very large and heavily chitinized and shiny reddish brown in colour. The 1st pellicle is very nearly 1/2 as long as the 2nd pellicle which is very nearly as large as the whole scale.

Male scale white with straw coloured almost golden pellicle, narrow and slightly expanded behind.

Length of scale of adult female 0.75-1 mm.

REMARKS.

A heavy infection was found on a bush in Wadi Ibtadi on 3.5.25. It has also been collected in small numbers near the top end of Wadi Suarka on 24.2.26 and in Wadi Araba 26.2.26.

I have recently received the same species on the same host plant from Dr. Bodenheimer collected in Palestine near Jericho.

18. ODONASPIS PANICI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 26, (1926).

HOST PLANT.

Gramineæ *Panicum turgidum.*

PART OF PLANT ATTACKED.

The main stem sheltered by the enveloping leaf-sheath.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Scale of adult female large, elongate, broadened in front and somewhat narrowed behind. Flattish and white in colour. Pellicles near one end naked and orange. Ventral scale entire, dense white and continuous with the dorsal scale. Where the specimens are

crowded the scales are fused at their edges forming one mass.

Male scale smaller elongate with subparallel sides. Pellicle orange. Width of scale rather more than the width of the pellicle.

Length of scale of adult female 2.5-3mm. Breadth 1.5-1.75 mm.

Length of scale of male 1 mm. Breadth 0.5 mm.

REMARKS.

The original material was collected at Abu Sueir (Housni) June 1925. It has since been found to be common on the Suez Road and in the wadis to the east of Beni Suef.

19. PARLATORIA EPHEDRAE LIND.

BIBLIOGRAPHY :

Lindinger, Zeitschr. f. wiss. Insektenbiol. VII, 4, p. 129 (1911).
Hall, Min. of Agric. Bull. No. 64, p. 16, (1925).

HOST PLANT.

Gnetaceæ *Ephedra alte.*

PART OF PLANT ATTACKED.

The small stems.

DISTRIBUTION.

Wadi Hof and Persia.

DESCRIPTION.

A small oval species tapering off somewhat posteriorly. The 1st pellicle is bare and apical, the 2nd is large occupying, in Egyptian examples, at least three quarters of the whole puparium. Secretionary

matter white. The colour of the pellicles, in dead examples, is dark green but that of the 2nd pellicle is somewhat obscured by the white secretionary matter.

In general appearance it resembles a small *Parlatoria blanchardii* Targ.

Length of scale of adult female 1 mm. Breadth 0.5 mm.

Remarks.

I have never collected this species. Dr. Debski gave me a little material collected in Wadi Hof on 31.5.19 and I found a little in the Ministry's collections collected 29.5.19 in Wadi Um Elek (Adair). According to Dr. Debski it is probable that both lots of material came from the same plant.

This species was originally described by Dr. Lindinger from material collected in Persia.

20. PINNASPIS BILOBIS NEWST.

Bibliography :

Newstead, Ent. Mon. Mag. Vol. XXXI, p. 233, (1895).
Hall, Min. of Agric. Bull. No. 22, p. 28, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 44, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 19, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 30, (1926)

Host Plants.

Gramineæ	*Panicum turgidum.*
Resedaceæ	*Ochradenus baccatus.*
Umbelliferæ	*Pithyranthus tortuosus.*

Part of Plant attacked.

Aerial.

DISTRIBUTION.

Widely distributed also occurring in Algeria and Palestine.

DESCRIPTION.

Puparium of adult female, opaque white, somewhat polished, very convex and broadly pyriform, widening considerably immediately behind the second pellicle. Pellicles, pale yellow, usually covered by a thin layer of white secretionary matter.

Length of scale of adult female 1.5 mm. Breadth 0.75 mm.

REMARKS.

Only collected once on OCHRADENUS near Helwan 20.8.23. Common on PITHYRANTHUS in Wadis Digla, Hof, Gerrawi, Ibtadi and at Mehatta Mashkara, and Ein Musa. It was found to be rare in the wadis east of Beni Suef only being taken once near the top end of Wadi Suarka. It has been collected twice on *Panicum turgidum*.

Originally described from Algeria on *Deverra scoparia* (UMBELLIFERAE). I have received what I take to be the same species on *Globularia alypum* (GLOBULARIACEAE) from Mr. Balachowsky from the same country and Dr. Bodenheimer tells me he has collected it on *Fœniculum vulgare* (UMBELLIFERAE) in a little wadi near Ain Harod (Palestine).

21. PINNASPIS ZILLAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 27, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 22, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 32, (1926).

HOST PLANTS.

Asclepiadaceæ	*Dœmia tomentosa.*
Boraginaceæ	*Trichodesma africana.*
Crassulaceæ	*Telephium sphærospermum.*
Cruciferæ	*Farsetia ægyptiaca.*
	Zilla spinosa.
Resedaceæ	*Ochradenus baccatus,*
	Reseda pruinosa.
Rutaceæ	*Haplophyllum halipensis.*
Umbelliferæ	*Pithyranthus tortuosus.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Widely distributed and also occurring in Palestine.

DESCRIPTION.

Scale of adult female approximately circular or broadly ovate, opaque white, very convex. First pellicle yellow, second pellicle straw coloured, both thinly covered with white secretionary matter. Ventral scale very thin, remaining attached to the host plant.

Male scale snowy white, narrow, elongate, with sides subparallel ; median carina usually present, lateral carinae wanting. Pellicle yellow.

Diameter of scale of adult female 0.8-1.0 mm.

REMARKS.

Probably the commonest species to be found in the desert. Heavy attacks have been found on *Zilla spinosa, Dœmia tomentosa, Ochradenus baccatus* and *Pithyranthus tortuosus.*

I have also received material from Palestine from

Dr. Bodenheimer on *Osyris alba* (SANTALACEÆ) and *Calotropis procera* (ASCLEPIADACEAE).

22. TARGIONIA HALOXYLONI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 27, (1926).

HOST PLANT.

Chenopodiaceæ *Haloxylon schweinfurthii.*

PART OF PLANT ATTACKED.

Aerial and subterranean — chiefly the latter.

DISTRIBUTION.

Widely distributed.

DESCRIPTION.

Scale of the adult female small irregularly circular, convex, dead white in colour owing to a thick covering of white secretionary matter. The 1st pellicle is straw coloured when denuded and the 2nd large and black. The white secretionary matter is easily knocked off coming away in one piece and revealing the black nymphal pellicle. It is this fact which makes the scale easy to detect, if it were not so they would be difficult to see. Both the 2nd pellicle and adult female strongly and often asymmetrically chitinized. Ventral scale well developed but usually remaining attached to the host plant.

Diameter of scale of adult female 1.25-1.75 mm.

REMARKS.

Found to be relatively common in Wadi Askhar South on 2.3.26, Wadi Araba 3.3.26 and Wadi Sennur

5.3.26, and later between the 5th and 6th Towers Suez Road in April 1926.

Part II.

Species not apparently confined to the desert.

Many of the species recorded here have their natural habitat in the cultivated area but have managed to adapt themselves to desert conditions owing to the presence of suitable host plants. Those species which are established or likely to be found to become established in the desert are marked with an asterisk.

1. * NAIACOCCUS SERPENTINUS VAR. MINOR GREEN.

BIBLIOGRAPHY :

Green, Records, Ind. Mus. Vol. XVIII, Part II, p. 117, (1919).
Hall, Min. of Agric. Bull. No. 36, p. 3, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 20, (1925).

HOST PLANT.

Tamaricaceæ *Tamarix* spp.

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Both Eastern and Western Deserts, El Arish (Sinai), Palestine, Eastern Persia and Baluchistan.

DESCRIPTION.

Adult female occupying the extremity of a very long white tubular ovisac which either forms a

simple loop or in crowded examples irregular coils. Adult female removed from the ovisac dull slaty grey or purplish brown.

Length of ovisac 1.25-1.75 inches.

REMARKS.

This species has been found to attack TAMARIX trees growing in the desert usually at no very great distance from cultivation. It is common near Kharga Oasis and Baharia Oasis and has been collected at El Arish (Sinai), Abu Sueir, and Geneife.

2. PHENACOCCUS CYPERI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 4, (1926).

HOST PLANT.

Cyperaceæ *Cyperus* sp.

PART OF PLANT ATTACKED.

Under the leaf sheath.

DISTRIBUTION.

Kharga Oasis.

DESCRIPTION.

The material of this species was brought in spirit and so the characters of the living insect cannot be given.

REMARKS.

Only collected once on the edge of the desert at Kharga Oasis (Taha) 10.12.25.

Although *Phen. cyperi* HALL has not yet been collected in the cultivated area I should expect to find

it there rather than in the desert. A careful examination of Kharga Oasis may prove it to be indigenous to the Oasis.

3. PSEUDOCOCCUS BROMELIAE BOUCHÉ.

BIBLIOGRAPHY :

Brain, Trans. Roy. Soc. South Africa, Vol. V, Part 2, p. 109, (1915).
Green, Cocc. of Ceylon, Part V, p. 381, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 4, (1923).
Hall, Min. of Agric. Bull. No. 72, p. 30, (1926).
Willcocks, Insect and Rel. Pests of Egypt, Sult. Agric. Soc. Bull. No. 2, p. 323, (1925).

HOST PLANTS.

Convolvulaceæ	*Cressa cretica.*
Gramineæ	*Sporobolus spicatus.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Edge of the desert at Khanka.

DESCRIPTION.

Adult female very pale pink or greyish with a thin covering of white powdery secretionary matter, margin with short stout filaments. Segmentation distinct. Body broadly ovate, convex and tumescent above with flattened ventral surface.

Length of adult female 2-2.5 mm. Breadth 1.5-1.75 mm.

REMARKS.

This cosmopolitan species that is relatively com-

mon in the Nile Valley was collected at the edge of the desert at Khanka (Taha) 24.4.26.

4. PSEUDOCOCCUS VARIABILIS HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 46, p. 5, (1924).
Hall, Min. of Agric. Bull. No. 64, p. 23, (1925).

HOST PLANT.

Gramineæ *Sporobolus spicatus.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Edge of the desert at Khanka.

DESCRIPTION.

Adult female elongate ovate, yellowish, rather thickly covered with mealy secretionary matter with regular short filaments set round the margin. Caudal filaments three times as long as the marginal filaments.

Shape of ovisac uncertain but surface very loosely matted showing the eggs within. Eggs yellow.

Length of adult female 2.5-3.25 mm. Breadth 1.5-2 mm.

REMARKS.

This species that is relatively common in the Nile Valley has been collected on the edge of the desert at Khanka (Taha) on 5.4.26.

5. * RIPERSIA CELLULOSA HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 7, (1923).
Hall, Min. of Agric. Bull. No. 72, p. 30, (1926).

HOST PLANTS.

Gramineæ	*Andropogon* sp.
	Imperata cylindrica.

PART OF PLANT ATTACKED.

Under the leaf sheaths.

DISTRIBUTION.

Wadis Digla and Gerrawi and the Mokattam Hills (Eastern Desert); near the Pyramids (Western Desert).

DESCRIPTION.

Adult female large, elongate ovate, delicate pink in colour, covered with a little white pulverulent secretionary matter. Marginal filaments wanting. Ovisac composed of ductile filaments. Eggs pale yellow to pale straw coloured. Dried specimens of the adult female are straw coloured.

Length of adult female 3-5 mm. Breadth 1.5-2.5 mm.

REMARKS.

R. cellulosa is very common on *Imperata cylindrica* in the Nile Valley. It has been collected on the same host plant in Wadi Digla 26.3.23, near the Mokattam Hills 13.2.26 and near the Pyramids (Western Desert) on 22.1.26. It was collected once on ANDROPOGON in Wadi Gerrawi 29.8.25.

6. **RIPERSIA INTERNODII** HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 8, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 20, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 30, (1926).
Willcocks, Insect and Rel. Pests of Egypt, Sult. Agric. Soc. Bull. No. 2, p. 314, (1925).

HOST PLANT.

Gramineæ *Sporobolus spicatus.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

The edge of the desert near Khanka.

DESCRIPTION.

Adult female superficially not unlike *P. sacchari* CKLL. but usually smaller, less elongate and of a darker pink almost violet colour.

Length of adult female 3.5-4.5 mm. Breadth 2-2.5 mm.

REMARKS.

This is not a common species even in the Nile Valley. It has only been collected once in the desert near Khanka (Taha) on 5.4.26.

7. **TRIONYMUS MASRENSIS** HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 64, p. 10, (1925).

HOST PLANT

Gramineæ *Imperata cylindrica.*

PART OF PLANT ATTACKED.

The roots.

DISTRIBUTION.

Kharga Oasis.

DESCRIPTION.

Adult female pale pink sparsely covered with white pulverulent matter. Segmentation of the abdomen very distinct. Marginal and caudal filaments wanting.

Shape of the ovisac not apparent but the filaments composing it are capable of being considerably drawn out.

Eggs pale yellowish pink.

Length of adult female 2.5-3.5 mm. Breadth 1.25-1.5 mm.

REMARKS.

This species has only been collected once near the edge of the desert at Kharga Oasis (Housni) on 5.11.24. It is possible that it is indigenous to Kharga Oasis.

8. * LECANIODIASPIS AFRICANA NEWST.

BIBLIOGRAPHY :

Newstead, Bull. Ent. Res. Vol. II, p. 100, (1911-12).
Lindinger, Die Schildlause, pp. 52 and 156, (1912).
Willcocks, Sult. Agric. Soc. Bull. No. 1, (1922), various records.
Hall, Min. of Agric. Bull. No. 22, p. 7, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 33, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 18, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 29, (1926).

HOST PLANT.

Leguminosæ *Acacia tortilis.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Wadi Askhar South.

DESCRIPTION.

Young adult female dusky red brown, brown, or smoky brown, generally protected by a thin coating of grey or ochreous and somewhat granular secretion. Rather elongate and shaped somewhat like a LECANIUM ; dorsum with a very pronounced keel, at the base of which is a regular series of short transverse ridges, interrupted in the centre by a deep longitudinal groove.

The female ovisac is very closely felted and straw coloured. Form short ovate and very highly convex; posterior half with a faint trace of a short median ridge, but this is, in old examples, more or less broken up into a series of faint tubercular projections ; on either side of the central ridge are a number of transverse ridges, varying in intensity according to the age of the individual, but in all cases they are interrupted centrally, and in old examples they are often represented merely by minute tubercular projections.

The above is part of the original description given by Newstead (*loc. cit.*)

Male puparium white or cream coloured elongate oval.

Length of adult female 3.5-5 mm.

Length of male puparium 1.5-2 mm.

REMARKS.

It is interesting to note that this species which is relatively common on Sunt (*Acacia arabica* VAR *nilotica*) south of Cairo was found in Wadi Askhar North 60 miles from the nearest cultivation on 27.2.26.

9. * CEROPLASTES AFRICANUS GREEN.

BIBLIOGRAPHY :

Green, Ann. Mag. N. H. (7) IV, p. 188, (1899).
Newstead, Bull. Ent. Res. Vol. II, p. 97, (1911).
Newstead, Bull. Ent. Res. Vol. IV, p. 74, (1913).
Willcocks, Sult. Agric. Soc. Bull. No. 1, pp. 257, 310, (1922).
Hall, Min. of Agric. Bull. No. 22, p. 16, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 37, (1923).

HOST PLANT.

Tamaricaceæ *Tamarix* sp.

PART OF PLANT ATTACKED.

The smaller branches.

DISTRIBUTION.

Wadi Gharba.

DESCRIPTION.

The old adult female very highly convex, almost spherical except where it is in contact with the host plant; opaque waxy white with sometimes, but by no means always, a nipple shaped prominence either centrally or subcentrally. Stigmatic areas marked by slight indentations bearing opaque white points and generally faintly tinged with pink; they are very inconspicuous and only just extend beyond the margin.

The insects are usually found crowded on the

stems of the plant and the waxy covering of adjacent individuals becomes confluent rendering it difficult to ascertain the real form.

In the young adult females the nipple is always present and is quite marked whilst in very young specimens the test is almost pyramidical and suffused with pink.

Denuded of its thick coating of wax the female is shining dark brown or reddish brown.

In some cases the test of the adult female is pale maroon.

Diameter of test 6-10 mm. Height 5-8 mm.

It is probable that *C. africanus* Green is a synonym of *C. mimosæ* Sign. which was also described from Egypt (Signoret. Ann. Soc. Ent. Fr. (5) II p. 46, 1872), Lindinger (Die Schildlause p. 51, 1912) and Brain (Bull. Ent. Res. Vol. XI. p. 31, 1920) are both of the opinion that they are the same.

Remarks.

Collected in Wadi Gharba 55 miles from the nearest cultivation on 30.4.25. Common on Sunt (*Acacia arabica* var. *nilotica*) and *Tamarix* in the Nile Valley.

10. CEROPLASTES RUSCI L.

Bibliography :

Newstead, Trans. Ent. Soc. London, p. 101, (1897).
Newstead, Bull. Ent. Res. Vol. II, p. 97, (1911).
Lindinger, Die Schildlause, p. 214, (1912).
Storey, List of Egyptian Insects, Min. of Agric. Bull. No. 5, p. 50, (1916).
Leonardi, Mon. Cocc. Ital. p. 356, (1920).
Willcocks, Sult. Agric. Soc. Bull. No. 1, (1912). Many records.

Hall, Min. of Agric. Bull. No. 22, p. 17, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 38, (1923).

HOST PLANT.

Moraceæ *Ficus sycomorus.*

DISTRIBUTION.

Aerial.

PART OF PLANT ATTACKED.

Branches.

DISTRIBUTION.

The test of the adult female is very highly convex, waxy white in colour, becoming almost globular late in life. The test is divided into a dome shaped central portion and eight quadrate plaques occupying the marginal area. In the centre of the dome there is a slightly depressed area reddish brown, broadly oval, in the centre of which is a small elongated raised white pad. The shallow depressed lines which subdivide the test are also of a reddish brown colour and in the centre of each plaque there is a more or less circular depression similarly coloured with one or more opaque raised white points. The stigmatic bands of opaque white wax are well marked.

In old adult females the test becomes globular, with a smooth surface and almost devoid of all signs of the characteristic plaques and pads of the earlier stages.

In dead specimens the colour tends to diffuse and the whole test to become a uniform brown.

Length 3-4.5 mm. Breadth 2-3 mm.

REMARKS.

Collected once in Wadi Hof on 22-11-24. A relatively common species in the Nile Valley.

11. * ADISCODIASPIS TAMARICICOLA MALEN.

BIBLIOGRAPHY :

Malenotti, Redia, Florence, XI, No. 2, p. 309, (1916).
Hall, Min. of Agric. Bull. No. 22, p. 23, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 41, (1923).
Bodenheimer, Soc. Roy. Ent. d'Egypte, p. 122, (1923).

HOST PLANT.

Tamaricaceæ *Tamarix* spp .

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Wadis Digla and Abu Seria and Abu Sueir.

DESCRIPTION.

The puparium of the adult female is very strongly convex, ovate, highest convexity being in the cephalic area ; colour greyish white. The pellicles are eccentric, but within the margin ; the first pellicle is generally obliquely placed, sometimes transversely placed, on the second pellicle. The pellicles are straw coloured but are not very apparent being covered with a coating of greyish white secretionary matter giving them the same appearance as the rest of the puparium.

The adult female is oval and brownish yellow.

Length of female puparium 1.5 mm.

REMARKS.

A common species in the Nile Valley. It has been

collected in Wadi Digla on 26.3.23 in Wadi Abu Seria 45 miles from the Nile Valley on 30.4.25 and at Abu Sueir on 14.6.25.

12. CHIONASPIS STANOTOPHRI COOLEY.

BIBLIOGRAPHY :

Cooley, Spec. Bull. Mass. Exp. Sta. p. 35, (1899).
Hall, Min. of Agric. Bull. No. 22, p. 28, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 20, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 21, (1925).

HOST PLANT.

Gramineæ *Imperata cylindrica.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Abu Roash and near the Pyramids (Western Desert).

DESCRIPTION.

Female puparium snowy white ; elongate, moderately dilated behind; ventral scale well developed, and often coming away unbroken with the dorsal parts. First pellicle very pale transparent fulvous ; anterior margin rather deeply notched ; antennal sheaths usually bent back and lying close along the margin. Second pellicle reddish or fulvous covered by a very delicate layer of secretion appearing as fine white transverse lines; sometimes, upon very fresh examples, three or more longitudinal white lines are noticeable, more especially in the second stage of the insect.

Length 2-3.50 mm. Breadth 0.75-1.75 mm.

Male puparium snowy white; elongate, narrow, sides nearly parallel ; rather indistinctly carinate ; at first thickly dusted with powdery secretion which in older examples becomes rubbed off, leaving the puparium quite smooth. Pellicle very pale fulvous, often tinged with brown.

Length averaging 1 mm.

The above is part of the original description of *Chionaspis graminis* VAR *divergens* GREEN (Cocc. of Ceylon Part II p. 123, 1899) with which Egyptian examples of *C. stanotophri* COOLEY are identical in external appearance. The only difference is that the male scale is often distinctly tricarinated.

REMARKS.

This species which is very common in the Nile Valley has been collected on the edge of the desert at Abu Roash on 18.2.24 and near the Pyramids on 22.1.26.

13. * LEPIDOSAPHES BICUSPIS HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 22, (1923).
Hall, Min. of Agric. Bull. No. 64, p. 22, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 32, (1926).
Bodenheimer, Cocc. of Palestine, Zionist Agric. Expt. Sta. Bull. No. 1, p. 47, (1924).

HOST PLANT.

Tamaricaceæ *Tamarix* sp.

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Wadi Sennur.

DESCRIPTION.

Scale of adult female broadened posteriorly and of somewhat irregular outline, particularly in overcrowded examples. Colour pale greenish brown. Faintly striated transversely; some examples exhibit a faintly rugose appearance. Margin flattened and translucent. Puparium waxy and semitransparent. Pellicles yellow, the second pellicle being about one quarter the length of the scale. First pellicle naked, second pellicle obscured by dusky white semitransparent secretionary matter. Ventral scale thin and undivided but easily ruptured.

Male scale similar in colour and shape to that of the female but smaller.

Length of scale of the adult female 1.5-2 mm. Breadth 1-1.75 mm.

REMARKS.

Collected in Wadi Sennur at least 20 miles from the nearest cultivation on 5.3.26. It is a rare species in the Nile Valley but must be widely distributed as it has been recorded from Palestine.

14. * LEPIDOSAPHES INTERMITTENS HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 46, p. 7, (1924).

HOST PLANTS.

Gramineæ *Panicum turgidum.*

Pennisetum dichotomum.

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Wadis Digla and Nouega.

DESCRIPTION.

Scale of adult female elongate, mussel shell shaped broadening very gradually posteriorly, moderately convex and straw coloured. Pellicles straw coloured with the length of the 2nd pellicle about 1/3 that of the entire scale. Secretionary covering thin and semi-transparent. Ventral scale thin and easily ruptured along the median line.

Male scale similar in colour to the female scale but much smaller and broadened very slightly behind the pellicle.

Length of scale of adult female 2-2.25mm. Breadth 1 mm.

REMARKS.

Collected on *Pennisetum dichotomum* in Wadi Digla on 26.3.23 and on *Panicum turgidum* in Wadi Nouega on 2.5.25. It is a common species in the Nile Valley ; material has also been received from Palestine.

15. * PSEUDAONIDIA GLANDULOSA NEWST.

BIBLIOGRAPHY :

Newstead, Bull. Ent. Res. Vol. II, p. 103, (1911).
Draper, Injurious Scale Insects of Egypt, p. 11, (1907).
Lindinger, Die Schildlause, p. 50, (1912).
Willcocks, Sult. Agric. Soc. Bull. No. 1, p. 257, (1922).

Hall, Min. of Agric. Bull. No. 22, p. 24, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 42, (1923).
Hall, Min. of Agric. Bull. No. 72, p. 30, (1926).

HOST PLANT.

Leguminosæ *Acacia tortilis.*

PART OF PLANT ATTACKED.

Aerial.

DISTRIBUTION.

Wadi Askhar North.

DESCRIPTION.

Puparium of adult female convex, circular straw coloured to orange in colour covered with white secretionary matter. Ventral scale white, thin centrally and thick marginally. The white thickened rim remaining attached to the plant is usually conspicuous when a scale is removed. The 1st pellicle is yellow but obscured by white secretion, 2nd pellicle large. Old adult females heavily chitinized.

Diameter of female puparium 1-1.5 mm.

REMARKS.

Collected on *Acacia tortilis* in Wadi Askhar North 60 miles from the nearest cultivation on 27.2.26.

It is a common species in the Nile Valley and is known also from Palestine and South Africa.

16. * TARGIONIA NIGRA SIGN.

BIBLIOGRAPHY :

Signoret, Ann. Soc. Ent. Fr. (4) x, p. 106, (1870).
Leonardi, Mon. Cocc. Ital. p. 111, (1920).
Hall, Min. of Agric. Bull. No. 36, p. 29, (1923).

Hall Min. of Agric. Bull. No. 64, p. 22, (1925).
Hall, Min. of Agric. Bull. No. 72, p. 32, (1926).

HOST PLANTS.

Boraginaceæ	*Heliotropeum luteum.*
Compositæ	*Artemisia judaica.*
	Launea spinosa.
Cruciferæ	*Farsetia ægyptiaca.*
	Zilla spinosa.
Cucurbitaceæ	*Citrullus colocynthis* (fruits).
Leguminosæ	*Alhagi maurorum.*
Resedaceæ	*Ochradenus baccatus.*

PART OF PLANT ATTACKED.

Aerial and subterranean — chiefly the former.

DESCRIPTION.

Widely distributed.

DESCRIPTION.

One of the most variable species in external appearance I know. The commonest form occurring in Egypt is with the scale of the adult female white or drab, convex, circular. Pellicles reddish brown obscured by a covering of opaque white or drab secretionary matter. Ventral scale opaque white and well developed.

Male scale white, elongate ovate, irregular in shape with yellowish brown pellicle.

Diameter of scale of adult female 1.5-2 mm.

One very pretty and striking form occurs particularly on *Farsetia ægyptiaca.* In this form the pellicles are overlaid with dead white secretionary matter the remainder of the scale being very dark brown almost black.

Another form on the roots of *Artemisia judaica* was indistinguishable from *Asp. artemisiæ* HALL. In this case the pellicles are covered by white secretionary matter the area surrounding the 2nd pellicle white shading off into chocolate with the margin again whitish. The general chocolate colouration with white centre, in most examples, was conspicuous.

REMARKS.

This common European species in Egypt appears to favour the desert. It is widely distributed and occurs on a number of plants. It has only once been collected in the Nile Valley and that was on *Alhagi* growing on waste sandy soil.

Early in March 1926 a visit was paid to the St. Antonius Monastery situated in Wadi Araba under the north face of the South Galala Mountains 80 miles east of the Nile Valley and about 20 miles from the Gulf of Suez. This extremely isolated Monastery could not exist were there not a well on the premises. The water from this well is sufficient to maintain a large garden containing fruit trees, vegetables, etc. During a very cursory examination of this garden the following species were found.

Ceroplastes africanus GREEN on *Acacia farnesiana* — a heavy attack.

Sphœerococcus marlatti CKLL. on *Phœnix dactylifera.*

Parlatoria blanchardii TARG. on *Phœnix dactylifera.*

Leucaspis riccæ TARG. on *Olea europæa.*

Asterolecanium pustulans VAR *sambuci* CKLL. on *Ficus carica.*

There is no doubt that all these species with the possible exception of *Cer. africanus* GREEN were introduced into the garden on plants brought from the Nile Valley.

Part III.

List of Host Plants.

A list of host plants giving the species which have been found to attack them should be useful. In many cases it will enable the species to be run down at once. The part of the plant attacked is indicated roughly — (A) aerial and (S) subterranean.

Acacia (*Leguminosæ*).

Lecaniodiaspis africana.	(A)
Pseudaonidia glandulosa.	(A)

Achillea (*Compositæ*).

Aspidiotus artemisiæ.	(S)

Alhagi (*Leguminosæ*).

Phenacoccus inermis.	(S)
Pseudococcus alhagii.	(S)
Targionia nigra	(A and S)

Mr. C. B. Williams informs me that he has collected *Lecanium elongatum* Sign. on *Acacia* sp. at the 3rd Tower Suez Road. I have no record of this and consequently have not included it.

Anabasis (*Chenopodiaceæ*).

Pulvinaria discoidalis.	(A)
Chionaspis noææ.	(A)

Andropogon (*Gramineæ*).

Ripersia cellulosa.	(A)

Artemisia (*Compositæ*).

Ripersia artemisiæ.	(S)
Ctenochiton artemisiæ.	(S)
Pulvinaria retamæ.	(A)
Aspidiotus artemisiæ.	(A and S)
Targionia nigra	(S)

Citrullus (*Cucurbitaceæ*).

Targionia nigra.	(A)

Cleome (*Capparidaceæ*).

Phenacoccus inermis.	(S)

Cressa (*Convolvulaceæ*).

Phenacoccus inermis.	(S)
Pseudococcus bromeliæ.	(S)

Cyperus (*Cyperaceæ*).

Phenacoccus cyperi.	(A)

Daemia (*Asclepiadaceæ*).

Pinnaspis zillæ.	(A)

Echinops (*Compositæ*).

Pseudococcus alhagii.	(A)

Ephedra (*Gnetaceæ*).

Filippia ephedræ.	(A)
Parlatoria ephedræ.	(A)

Fagonia (*Zygophyllaceæ*).

Phenacoccus inermis.	(S)

Farsetia (*Cruciferæ*).

Coccomytilus farsetiæ.	(A)
Pinnaspis zillæ.	(A)
Targionia nigra.	(A and S)

Ficus (*Moraceæ*).

Ceroplastes rusci.	(A)

Frankenia (*Frankeniaceæ*).

Phenacoccus inermis.	(S)

Gymnocarpus (*Caryophyllaceæ*).

Monophlebus gymnocarpi.	(A)

Haloxylon (*Chenopodiaceæ*).

Monophlebus gymnocarpi.	(A)
Targionia haloxyloni.	(A and S)
Pulvinaria discoidalis.	(A)
Chionaspis noææ.	(A)
Targionia haloxyloni.	(A and S)

Haplophyllum (*Rutaceæ*).

Pinnaspis zillæ.	(A)

Heliotropeum (*Boraginaceæ*).

Targionia nigra.	(A)

Imperata (*Gramineæ*).

Ripersia cellulosa.	(A)
Trionymus masrensis.	(S)
Chionaspis stanotophri.	(A)

Launea (*Compositæ*).

Targionia nigra.	(A)

Nitraria (*Zygophyllaceæ*).

Monophlebus gymnocarpi.	(A)

Noæa (*Chenopodiaceæ*).

Chionaspis noææ .	(A)

Ochradenus (*Resedaceæ*).

Pinnaspis bilobis.	(A)
Pinnaspis zillæ.	(A)
Targionia nigra.	(A and S)

Panicum (*Gramineæ*).

Antonina indica *var.* panica.	(A and S)
Aclerda panici.	(A)
Chionaspis noææ.	(A)
Lepidosaphes intermittens.	(A)
Odonaspis panici.	(A)
Pinnaspis bilobis.	(A)

Pennisetum (*Gramineæ*).

Lepidosaphes intermittens.	(A)

Pithyranthus (*Umbelliferæ*).

Pulvinaria retamæ.	(A)
Aspidiotus herzlianus.	(A)
Pinnaspis bilobis.	(A)
Pinnaspis zillæ.	(A)

Reseda (*Resedaceæ*).

Pinnaspis zillæ.	(A)

Retama (*Leguminosæ*).

Pulvinaria retamæ.	(A)
Coccomytilus retamæ.	(A)

Sporobolus (*Gramineæ*).

Pseudococcus bromeliæ.	(S)
Pseudococcus variabilis.	(S)
Ripersia internodii.	(S)

Tamarix (*Tamaricaceæ*).

Naiacoccus serpentinus *var.* minor	(A)
Ceroplastes africanus.	(A)
Adiscodiaspis tamaricicola.	(A)
Lepidosaphes bicuspis.	(A)

Telephium (*Crassulaceæ*).
Pinnaspis zillæ. (A)

Trichodesma (*Boraginaceæ*).
Pinnaspis zillæ. (A)

Zilla (*Cruciferæ*).
Phenacoccus zillæ. (S)
Pinnaspis zillæ. (A)
Targionia nigra. (A and S)

Zygophyllum (*Zygophyllaceæ*).
Phenacoccus inermis. (S)

In conclusion I desire to express my thanks to Mr. N. D. Simpson, Botanist to the Irrigation Department of the Ministry of Public Works and to Dr. Debski for their kind assistance in the identification of desert plants ; also to all those gentlemen who have kindly brought me in material from the desert and to Rustum eff. Ibrahim for typewriting the manuscript.

Séance du 24 Juillet 1926

Présidence de M. le Dr. B. Debski, *Vice-Président*.

Nominations :

Messieurs Bernard Losco et Aldo Mortera, présentés par MM. Richard Wilkinson et Anastase Alfieri, sont admis à faire partie de la Société au titre de Membres Titulaires.

Dons pour la Bibliothèque :

M. le Dr. Prof. Richard Ebner, de Vienne, adresse deux brochures de ses travaux :

a). Biologische Beobachtungen an *Pycnogaster bolivari* Br. W. (Orthoptera).

b). Ueber einige orthopteren von Bali (Niederlaendisch-Indien).

Séance du 13 Octobre 1926

Présidence de Mtre G. Ferrante, *Vice-Président.*

Communications

Beitrage zur Lepidopterenfauna Aegyptens

von Dr. H. Rebel.

III. (1)

(Mit zwei Textiguren).

Durch Herrn Adolf Andres, welcher gegenwärtig wieder in Aegypten weilt, und Herrn An. Alfieri (Aegyptisches Ackerbau Ministerium) erhielt ich in den letzten zwei Jahren einige Sendungen ägyptischer Microlepidopteren zur Bestimmung zugeschickt, deren Erledigung den Inhalt der nachstehenden Beiträge bildet. Die fur Unteraegypten neuen Arten sind und einem Stern (*) verschen.

Belegstücke der neubeschriebenen Arten befinden sich in Kairo (Coll. Alfieri) und im Naturhistorischen Museum in Wien.

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(1) vgl. Deutsche Ent. Zeitschr. « Iris », XXVI (1912), p. 65-92; XXVIII (1914), p. 258-270.

PYRALIDAE

* 1. *Corcyra cephalonica* Stt.

Ein sicheres Stück dieser weitverbreiteten Art (leg. Alfieri), von welcher *Corcyra nidicolella* Rbl. (Iris XXVIII, p. 260) von Kairo weit verschieden ist.

* 2. *Lamoria jordanis* Rag.

Von M. Alfieri zur Bestimmung erhalten. Hierher gehört auch das von mir (Iris XXVI, p. 73) als fragliche *L. imbella* erwähntes Pärchen aus der Umgebung Kairos (Herzog).

* 3. *Crambus numidellus* Rbl. (Z. b.V. 1903, p. 406)

Ein sicher dieser, aus dem Saharagebiet beschriebenen Art angehöriges grosses Weibchen (Exp. 30 mm., liegt mir von Wadi Gerrawi vor, wo es am 13.Apr.23 an der Lampe erbeutet wurde (Alfieri).

* 4. *Platytes carectellus* Z.

Ein Stück (leg. Alfieri). Das Vorkommen dieser Art in Aegypten hat nichts Uberraschendes.

* 5. *Pseudosyria gracilis*, n.g. et n.sp. (♂).

Zwei männliche Stücke, davon das eine mit der Bezeichnung « Wadi Hof 19.III.15 », stimmen im Habitus und sonstigen Merkmalen gut mit Arten der Gattung *Syria* Rag. überein, mit welcher sie jedoch zufolge der Fühlerbildung nicht vereint werden können. Der männliche Fühler zeigt nämlich auf der Aussenseite seiner fünf ersten Basalglieder durch reichlichen Schuppenbelag eine sehr auffallende Verdickung (vgl. Fig. 1), welche allerdings bei dem

geflogenen Stück von Wadi Hof zum grössten Teil verloren gegangen ist.

Fig. 1 — Männlicher Fühler von *Pseudosyria gracilis* Rbl. 4 : I der natürl. Grösse.

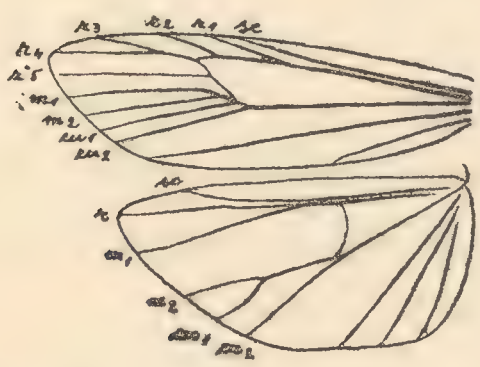

Fig. 2 — Flügelgeäder von *Pseudosyria gracilis* Rbl (♂). 4 : I der natürl. Grösse.

Im Geäder (Fig. 2) liegt kein wesentlicher Unterschied gegen die Gattung *Syria* vor, nur der Stiel der Gabelung von Ader Cu 1 und Ader M 3 der Hfl. ist hire länger als bei *Syria*, bezw. die Gabel kürzer.

Die Art ist sehr schlank und zart. Die schuppige Verdickung an der Basis der männlichen Fühler ist braun, die Geissel sehr lang bewimpert. Die braunen Augen sind sehr gross. Die Maximalpalpen sind pinselförmig. Das Mittelglied der fast senkrecht auf steigenden Labialpalpen ist breit beschuppt, weisslich braunstäubig, das stumpfe Endglied kurz, die Scheitelhöhe stark überrangend. Der Körper sandgelb, der Hinterleib überaus schlank mit breiterem Analbüschel.

Vfl. sehr schmal, mit wenig schrägem Saum,

mit 2 aus einzenen bläulich-schwarzen Schuppen bestehenden Querstreifen, und zwar einer fast senkrecht am Innenrande stehendem bei 1/3 der Flügellänge, der den Vorderrand nicht erreicht und beiderseits weiss begrenzt ist. Der aussere schräge Querstreifen zeigt eine weissliche Unterteilung, erreicht den Vorderrand knapp vor der Flügelspitze und biegt gegen dieselbe ab. Das Saumfeld sandgelb mit schwärzlicher Staublinie an der Basis der sehr breiten Fransen, die gegen ihr Ende dunkler werden, mit weisslicher Unterteilung. Am Schluss der Mittelzelle 2 schwarze Schuppenpunkte. Hfl. weiss mit doppelter, gelblich ausgefüllter Saumlinie und gegen die Spitze etwas grauen Fransen.

Vfllänge 7-8, Exp. 13-15 mm.

* 6. *Heterographis harmoniella* Rag.

Ein Männchen von Bercash, Mai 1913 (Andres).

7. *Heterographis convexella* Led.

Ein Stück der im Süden weitverbreiteten Art aus der Umgebung Kairos (Alfieri). Die Art ist bereits aus der Umgebung Assuans bekannt geworden (Jackson, Ent. Rec., XXII, p. 18).

* 8. *Heterographis acrobasella n. sp.* (♂)

Klein und gedrungen, in Färbung und Zeichnung an Arten der Gattung *Acrobasis* erinnernd. Fühler einfach, sehr kurz bewimpert. Palpen sehr lang, hellgelblich, vorstehend.

Vfl. violettbräunlich, mit zwei weissen Querstreifen. Der Erste, bei 1/3 der Flügellänge, ist basalwärts gegen den Innenrand und nach aussen gegen den

Vorderrand in Form je eines anliegenden, schwarzbraunen Dreieckes begrenzt. Darnach ein grosser, flacher, rein weisser Vorderrandsfleck, an dessem unteren Ende basalwärts der schwarze hakenförmige Mittelstrich liegt. Der äussere weisse Querstreifen ist weit nach aussen gerichtet, verläuft fast gerade und ist unterhalb des Volerrandes unterbrochen. Die feine Saumlinie ist schwarz, die Fransen rötlich. Die Hinterflügel bräunlichgrau mit weisslichen Fransen.

Unterseite hell gelbgrau. Vfllange 6.7, Exp. 14 mm. Nur ein Männchen mit der Bezeichnung : « Ramleh (Palais), 5 Septembre 1921 ».

* 9. *Staudingeria labeculella* Rag.

Ougret el Sheq 15 Apr. 21. (leg. Alfieri).

9 bis. *Trachypteryx acanthotecta* n.sp. (♂, ♀).

Herr Alfieri zog diese auffallend schöne Art, deren Raupengehäuse die Dornen ihrer Futterpflanze *Acacia tortilis*, nachahmt, in Anzahl, und zwar in den Galalaländern, östlich von Beni-Suef. Schon früher wurde die Art auch im Sinaigebiet erbeutet.

Mir liegt ein Pärchen mit der Bezeichnung « éclos 11.IV.26 (♀), 2.V.26 (♂), de fourreaux sur *Acacia tortilis* du Galala, 1-4.III.26 » und ein grosses gefangenes ♀ mit der Bezeichnung « Sud-Sinai, près Wadi Isla, 27.III.24 » vor.

Die organischen Merkmale der Art stimmen mit jenen der Gattung *Trachypteryx* Rag. (Mon. 1, p. 566), von welcher bisher erst zwei Arten aus Südafrika bekannt wurden, ganz überein.

Die Fühler, ohne Auszeichnung am Basalglied,

sind beim ♂ zweireihig bis zur Spitze lang bewimpert, beim ♀ nur fadenförmig. Die Wimperlänge überragt die Geisselbreite. Die Labialpalpen zweimal so lang als die Kopfbreite, gerade vorstehend ; das kurze stumpfe Endglied beiläufig ein Sechstel so lang als das Mittelglied. Die Maxillarpalpen kurz zylindrisch, dem Labialpalpenmittelglied aufliegend.

Die Beine kurz und gedrungen. Die abgeflachten Hinterschienen beim ♂ verbreitert.

Die Vorderflügel gestreckt, nach aussen verbreitert mit scharfer Spitze und bauchigem Saum, die Hfl. breit, mit stumpfer Spitze. Auf den Vfl entspringen Ader M3 und M_2 getrennt aus dem unteren Zellwinkel, Ader R5 fehlt, R4 und R3 sind gestielt. Auf den quadrifinen Hinterflügeln entspringt Ader Cu_2 weit vor dem Zellwinkel, Ader R und Sc verlaufen getrennt, aber einander sehr genähert. Die Mittelzelle ist kurz.

Uber die Lebensweise der Raupen in dieser Gattung war bisher nichts bekannt.

Die vorliegende Art ist sehr hübsch gefärbt. Kopf, Thorax und Vorderflügel rosenfarb, ersterer mit zwei weissen Mittellängstreifen, die sich auf den Halskragen fortsetzen. Die Beine und der Hinterleib sind gelbgrau. Am Innenrand der Vfl liegt eine von der Basis ausgehende und bis 1/2 der Länge des Innenrandes reichende hellbraune Strieme. Oberhalb derselben steht an der Flügelbasis selbst ein sehr kurzer weisser Schuppenstrich, und innerhalb der Strieme noch ein längerer, nach abwärts gerichteter rein weisser Strich. Letzterer wird nach aussen durch zwei erhabene violette Schuppenhäufchen begrenzt, denen

noch ein drittes solches, am Ende der spitzen braunen Strieme, am Innenrand selbst liegend, folgt. Die beiden weissen, auf der einander zugekehrten Seiten breit dunkelbraun gesäumten Querstreifen vereinigen sich in einem fast rechten Winkel oberhalb des Innenrandes bei 2/3 der Flügellänge. In dem von den beiden Querstreifen gebideten dreieckigen Raum liegt der braune Mittellängsstrich; auch sind die Flügeladern daselbst nach aussen breit hell beschuppt und dunkelbraun von einander getrennt. Gegen die Flügelspitze liegt noch ein unbestimmter weisslicher Vorderrandswisch. Das Saumfeld rosenfarb, die scharfe Saumlinie dunkelrötlich, die breiten bräunlichen Fransen sind an ihrer Basis schmal weiss.

Hinterflügel weiss, längs des Innenrandes gelblich, mit gegen die Spitze breiter werdender, rötlicher Saumlinie.

Unterseite weiss, die Flügelränder rosenfarb, die Fransenbasis dichter weiss beschuppt. Die Vfl daselbst mit durchscheinenden äusseren weissen Querstreifen. Vfllänge 11-13, Exp. 22-26 mm.

Länge des sehr spitz endenden Raupensackes 45 mm.

* 10. *Salebria serratella* Rag.
Ougret el Sheq, 15.5.1921 (Alfieri).

* 11. *Salebria pulverulenta* Rag.
Wie die vorige.

* 12. *Acrobasis pumilella* n.sp. ✓

Sehr klein, staubgrau, Hinterleib bräunlich, Vfl. mit vollständigem schwarzen, nach aussen rostrot an-

gelegten, gerade verlaufendem Querstreifen bei 1/3 der Flügellänge. Sonst zeichnungslos. Fransen und Hfl. noch heller staubgrau. Unterseite weisslich, nur die Vfl basalwärts bräunlich getönt. Vfl 6, Exp. 12 mm.

Ein ♂ mit « Ramleh (Palais) 15 August 1921 » bezeichnet.

12 bis. *Lepidogma jordanalis* Rbl., Iris XV (1902), p. 100, Taf. 4, fig. 2 (♂) ; *constantialis* Hmps., Ann. et Mag. (7) XVII. (1906), p. 123.

Auch von dieser interessanten Art gelang es Herrn A. Alfieri die ersten Stände auf *Ephedra* sp. in den Galala Ländern zu entdecken. Zwei mir vorliegende anfangs Mai gezogen Stücke (♂, ♀) stimmen ganz mit einem typischen Stück.

Die Art scheint von Palästina längs des Suezkanals (*constantialis*) bis in die Galalaländer verbreitet zu sein.

* 13. *Pyralis galactalis* Hmps., Ann. & Mag (8) XVIII, (1916), p. 372.

Ein ♂ dieser schönen sehr auffallenden Art. Sonst aus British Ostafrika, Maschunaland und Südarabien bekannt (Alfieri).

* 14. *Nymphula affinialis* Gn.

Hierher als Synonym *N. fuscomarginata* Bak. (Rebel, Iris XXVI, p. 81), (Alfieri).

* 15. *Piletocera opacalis* n.sp. ✓

Fühler bräunlich, schwarz geringt, Palpen anliegend buschig behaart, mit kurzem stumpfen Endglied. Körper wie die Grundfarbe der Vfl., dunkel-

bräunlichgrau, der spitz endende Hinterleib an den Seiten dunkler, seine Segmentränder weisslich.

Vfl. dunkelbräunlichgrau, bei 1/3 der Flügellänge mit einer breiten, schwärzlichen, nach Aussen undeutlich begrenzten, bis zum Innenrand reichenden fleckigen Querbinde, einem viereckigen, bis nahe an den Vorderrand reichenden, tiefschwarzem Mittelfleck und einem nach aussen licht begrenzten hinteren Querstreifen, der zwischen Ader Cu2 und M3 einen Vorsprung nach aussen macht. Die **Hfl.** schwärzlichgrau, mit schwarzem Mittelpunkt und verwaschenem Mittelbogenstreifen. Die Beschuppung ist glanzlos, die Fransen nach der lichten Saumlinie einfarbig. Die Unterseite im Saumfelde aller Flügel lichter, mit grossem, dunklen Mittelpunkt und lichtem hinteren querstreifen. Vfllange 7-8, Exp. 15 - 16 mm. — Drei Stücke, davon eines mit Bezeichnung « Bacos (Andres) ».

* 16 *Pyrausta inustalis* Rag.

Ein ♀ von Deirut (Behera) am 1 Sept. 1923 am Licht gefangen (Alfieri). Die Art steht im Katalog noch in der Gattung *Metasia*.

PTEROPHORIDAE

* 17 *Stenoptilia arida* Z.

Ramleh (Palais), Juli 1921 (Alfieri).

GELECHIIDAE

* 18. *Lita ocellatella* (Boyd) *obscurior* n. subsp.

Zwei gezogene Stücke mit der Bezeichung « Gizeh

e.l.27 juin 1918 » unterscheiden sich von normalen Stücken durch dunklere, dichtere schwärlichere Bestäubung der Vft., auf denen die striemenartige Aufhellung des Innenrandes ganz fehlt.

* 19. *Recurvaria nanella* (Hb.) *unicolor* n. subsp. ♀.

Ein etwas defektes ♀ mit der Bezeichnung «Elevé feuillage abricotier de Gizeh 25 Avril 1918 » hielt ich für eine neue Art. Mr. Meyrick erkannte aber darin eine auffallende Form obiger Art, die sich durch die zeichnungslosen bräunstäubigen Vorderflügel sehr auszeichnet. Die langen weissgrauen, doppelt schwarz geringten Palpen stimmen mit normalen Stücken, desgleichen die Fransen der Vfl. Die Fühler sind einfärbig bräunlich. Die Legeröhre steht weit hervor. Vfllange 5, Exp. 11 mm.

* 20. *Apodia ochreella* n. sp. (♀).

Fühler ockergelb, nur bis 3/5 der Vorderrandslänge reichend. Palpen, wie die Allgemeinfärbung, ockergelb, von 1 1/2 Kopfdurchmesserlänge, Endglied 1/3 kürzer als das Mittelglied, Vfl. licht ockergelb mit dunkelockergelber Bestäubung, welche in der Falte und unmittelbar darüber je einen bis 2/3 der Flügellänge reichenden Längsstreifen bildet. Ein weiterer Längsstreifen auf der Basis unterhalb der Vorderrandes bleibt undeutlich. Längs des Saumes zieht ein breiterer dunkelockergelber Querstreifen. Die sehr breiten Fransen ockergelb mit einer Teilungslinie vor ihrer Mitte namentlich gegen die Flügelspitze. Die Hfl. mit sehr lang ausgezogener Spitze weisslichgelb, mit breiten ockergelben Fransen. Die Unterseite der Vfl.

dunkelockergelb, jene der Hfl. weisslich mit ockergelben Fransen. Vfllänge 7, Exp. 13 mm. Ein gut erhaltenes ♀ mit der Bezeichnung « Ramleh (Palais) Juli 1921 ».

* 21. *Rhinosia formosella* Hb.

Ein gut erhaltenes ♀ von Ezbet Naklé, 5 April 1914 (Alfieri).

* 22. *Symmoca angustipennis* n. sp. (♂). ✓

Allgemeinfärbung sandgrau. Die sehr langen Fühler bis 5/6 der Vorderrandslänge reichend, stark gezähnelt, dunkelgrau. Die kurzen Palpen nur von 1 1/2 Kopfdurchmesserlänge, das Endglied 1/2 des Mittelgliedes. Der sehr lange schlanke Hinterleib, sandgrau, der Rücken der drei letzten Segmente orangerot, mit breiten grauen Segmenträndern und grauem Afterbüschel.

Vfl. sehr gestreckt, mit sehr schrägem Saum (fast *Coleophora*-artig), weissgrau, dunkler sandgrau bestäubt, namentlich gegen den Vorderrand, mit einer Verdunklung am Querast. Hfl. so breit wie die Vfl., mit geradem Vorderrand und scharfer Spitze, dunkelbleigrau, mit hellgrauen Fransen, deren Länge am Innenwinkel etwas über die Flügelbreite beträgt. Unterseite aller Flügel dunkelgrau. Vfllänge 6.5, Esp. 13 mm. Ein ♂ mit der Bezeichnung « El Borg (Mariout), 2 Mai 1921 ».

* 23. *Apatema* (*Macroceras*) *oecophila* Stgr.

Kairo, 2 Mai 1914, im Hause (Alfieri)

* 24. *Depressaria macrotrichella* Rbl., z.b.V. 1917, p. 26.

Ein tadellos erhaltenes grosses weibliches Stück

aus Unterägypten (leider ohne nähere Fundortsangabe) erhielt ich kürzlich von Herrn Andres zur Bestimmung. Es stimmt mit der Type, welche ich jetzt für ein männliches Stück halte, bis auf die breitere Flügelform und die bedeutendere Grösse (Vlllänge 12, Exp. 25 mm. gegen 10, resp. 21 mm. der Type) sehr gut überein. Ich beschrieb die Art, welche sich durch die aussnehmend lange Behaarung des Palpenmittelgliedes auszeichnet, aus Nordpersien (Poin Schakuh).

ELACHISTIDAE

* 25. *Cosmopteryx minetis* Meyr.

Choubrah, 15 Aug. 1922 (Alfieri). Die Bestimmung rührt von Mr. Meyrick her.

* 26. *Stathmopoda auriferella* Wlk.

Ein ♀ mit der Bezeichnung «Cairo, Jardin de Mr. Greiss » gezogen aus den Früchten von *Zizyphus* am 9 okt. 1922 (Alfieri). Die Art wurde von mir bereits (Iris XXVII, p. 270) als ? « *Stagmatophora* spec. » angeführt.

* 27. *Stagmatophora alfieriella* n.sp. (♂, ♀). ✓

Fühler kurz, nur bis 1/2 des Vorderrandes der Vfl. reichend, schwarz, im Enddrittel weiss. Kopf schwarz, Palpen von doppelter Kopfdurchmesserlänge, sichelförmig aufgebogen, schwarz, ihr Mittelglied innen weiss. Beine aussen schwarz mit gelblichweiss gefleckten Gliederenden. Der gedrungene Hinterleib hell-grau, mit dunkelgefleckten Seiten. Vfl. glattbeschuppt, glänzend schwarzbraun mit breiter, bleichgelber Basalquerbinde, welche nur einen schmalen

Schulterfleck der schwarzen Grundfarbe freilässt, ferner einen schmaleren, bleichgelben, fast senkrecht bei 1/2 der Flügellänge liegenden Mittelbinde und einem bleichgelben Vorderrandshäkchen bei 4/5 der Flügellänge. Fransen einfärbig schwarzbraun. Hfl. lanzettlich geformt, bleigrau, mit helleren sehr langen Fransen. Vfllänge 3 - 4 mm.

Zwei Stück mit der Angabe « Ein el Chams » e.l.22 - 28 Okt.18. Raupe 9 Okt.18 in Infloreszenzen von «Sunt» (*Acacia nilotica*). Auch von Dr. Dampf (Maadi e.l. 27.IX-6.X.19) in Agypten gezogen.

Die Art gleicht der *St. fasciata* Wls. (Tr. Ent. Soc. London, 1891, p. 118, Pl. 6,f.56) von Gambia, welche aber einen gelben Kopf, breitere nach aussen gerückte Mittelbinde und kein Vorderrandshäkchen hat.

* 28. *Coleophora salinella* Stt.

Gezogen aus Säckchen, gefunden auf *Chenopodium* sp. in einem Garten in Kairo am 26 September (Alfieri).

TINEIDAE

* 29. *Psephologa climacodes* Meyr.

Ein grosses Weibchen (Vfllange 8, Exp. 16 mm.) wohl von Kairo (Alfieri), gleicht einer riesigen *Tinea cloacella* Hw.

Névroptères d'Egypte et de Palestine

3me Partie (1)

par le R. P. Longin Navas, S. J.

(10 figures dans le texte)

Ce travail complète l'étude des Névroptères d'Egypte et de Palestine qui m'avaient été communiqués par Monsieur Anastase Alfieri. Quoique le nombre des espèces est très important pour les petites familles qui vont suivre, il serait cependant prématuré de dresser un tableau dichotomique des formes des pays précités.

Famille des Némoptérides

Tribu Némoptérins Nav.

1. *Nemoptera aegyptiaca* Ramb.
   Palestine : Jaffa 27.7.1918 (Seabrook).

2. *Halter halteratus* Forsk.
   Egypte : Wadi Digla 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick).

3. *Stenorrhachus costatus* Klug.
   Egypte : Solloum 22.6.1916 (Williamson).

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(1) La première partie (Famille des Ascalaphides) a été publiée dans ce Bulletin, Année 1925, fasc. 1-3, pp. 29-36. On trouvera la deuxième partie (Famille des Myrméléonides) en tête du présent Bulletin, pp. 26-62.

Tribu Crocins Nav.

4. *Klugina aristata* Klug (fig. 1).

Nemoptera aristata Klug, Abhandl. Akad. Berl., 1836, p. 96, f. 5.

Klugina aristata Navas, Mem. R. Acad. Cienc. Barcelona, 1910, p. 394, f. 17.

Egypte : ♀ Wadi Wiggle Woggle (élevé de la larve) 22.9.1919; ♂ Meadi 13.12.1913 (Dr. L. H. Gough).

L'exemplaire figuré par Klug paraît devoir être une ♀ ; celui de ma collection, figuré dans mon mémoire et auquel il manque actuellement l'abdomen, se rapporterait au ♂ : la réticulation est identique à celle de l'exemplaire provenant d'Egypte, que j'ai sous les yeux, dont l'abdomen est complet. Il m'a semblé utile d'indiquer ici bas les particularités du ♂, ainsi que les dimensions des deux sexes.

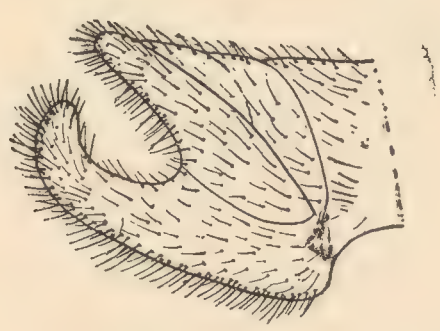

Fig. 1 — *Klugina aristata* ♂ Klug : Extrémité de l'abdomen.

♂. — Cerci superiores (fig. 1) crassi, flavi, adscendentes, apice introrsum arcuati. Lamina subgenitalis grandis, elongata, subtriangularis, apice sursum arcuata.

Long. du corps (sans le bec) ♂ 5 mm., ♀ 5.6 mm.
» de l'aile antérieure ♂ 7.3 mm., ♀ 9.5 mm.
» de l'aile postérieure ♂ 18 mm., ♀ 18 mm.

Il est à remarquer que dans la figure de Klug la largeur des ailes postérieures est sensiblement exagérée.

5. *Pterocroce arenaria* Roux.

Necrophilus arenarius Roux, 1833.

Pterocroce Storeyi Withycombe, Trans. Entom. Soc. London, 1923, p. 277, pl. XII, f. 3 et 4.

Par suite de son double emploi avec le genre *Necrophilus*, créé par Latreille pour un insecte de la famille des Coléoptères, le nom *Necrophilus* avait disparu de la nomenclature des Névroptères; la désignation spécifique *arenarius* avait été elle-même éliminée ou négligée dans la nomenclature par le fait qu'il était impossible d'identifier l'espèce. Actuellement, grâce aux efforts de Monsieur C. B. Williams, qui a réussi à obtenir l'adulte d'un élevage de larves, et grâce aux travaux de Monsieur Withycombe, dans lesquels sont décrits et figurés ces larves et adultes, je suis entièrement convaincu que cette espèce est celle qui a été figurée autrefois par Schaum et désignée du nom de *Necrophilus arenarius*. Ainsi, pour me conformer aux règles de la priorité, je rétablis le nom spécifique *arenarius;* et le genre *Pterocroce* With. étant valide, je désigne définitivement ce Némoptéride sous le nom de *Pterocroce arenaria* Roux.

Egypte : ♂, Wadi Digla, le soir à la lampe, 6.9.1923 (T. W. Kirkpatrick); ♀, Wadi Digla, 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick).

6. *Nina Chobauti* Mac Lachl.

Egypte : Wadi Digla (le soir à la lampe) 6.8.1923 (T. W. Kirkpatrick); Wadi Digla 29-31.5.1924 (C. B. Williams et T. W. Kirkpatrick); Wadi Guffan 6.7.1916 (E. W. Adair); Wadi Raib (Sud Est Sinaï) 27.3.1924 (P. A. Clayton).

J'ai vu aussi, dans l'envoi de Monsieur Alfieri, des exemplaires recueillis par Monsieur Heald à Kinina et Merda (côtes du Sud de l'Arabie) du 13 au 19.3.1920.

7. *Nina Withycombei* sp. nov. (fig. 2).

Pars inferior corporis fulvo-flava.

Caput superne fulvo-ferrugineum, oculis fuscis; vertice paulo latiore oculo desuper viso; prosostomate longissimo (4 mm.), plus quinquies longiore spatio interoculari, saltem ter capite cum oculis; parte basali ad latera fuscescente, stria basali brevi fusco-ferruginea; parte media apicali angustiore, fulva.

Pronotum plus duplo longius latitudine, fulvo-ferrugineum. Meso et metanotum fulvo-pallida, vix obscurius striata.

Abdomen fulvum, parte apicali tergitorum fuscescente; lamina subgenitali ♂ brevi, triangulari lata, flava; cercis superioribus brevibus, crassis, cylindricis, flavis.

Pedes pallidi, seu flavo-albi, pilis fuscis, brevibus.

Ala anterior (fig. 2) venis flavidis, venulis plerisque obscurioribus, costalibus citra stigma fere 22, fuscescentibus; stigmate (fig. 2 a) elongato, parte interna fusca, externa albo-flava, fere 5 - 6 venulis in parte

fusca, 5 in parte pallida; bulla (fig. 2 b et c) citra medium marginis posterioris, semilunari, multo longiore latitudine, margine anteriore fusco, reliqua

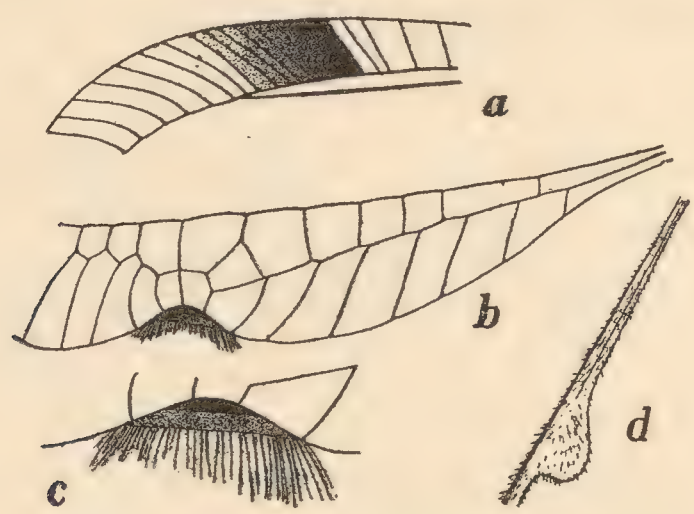

Fig. 2 — *Nina Withycombei* ♂ Nav. : Ailes.
a. Stigma; b. c. Bulle; d. Bulle de l'aile postérieure.

membrana pallido, margine posteriore concavo, albido piloso; 2 venulis radialibus internis, fere 18 externis, inter duas ultimas longo tractu vacuo, 4 intermediis internis, 13 externis, seu inter sectorem radii et procubitum, pluribus discalibus, seu inter ramos sectoris, aliquot gradatis in area cubitali (fig. 2 b).

Ala posterior triplo longior, in tertio basali fulvo-alba, in reliquo alba; bulla (fig. 2 d) albida, pilosa, ovali, in quinto basali interno sita.

Long. corp. ♂	10.5	mm.
» al. ant.	14	mm.
» al. post.	44	mm.

Cette espèce a été capturée par Heald a Kinina et Merda (cotes du Sud de l'Arabie) entre le 13 et le 19 Mars 1920. Je l'ai décrite dans ce mémoire car il se pourrait qu'on la retrouve un jour en Egypte aussi. Elle est dédiée à Monsieur Withycombe, en hommage

au distingué collègue qui a étudié d'une façon particulière les Crocins d'Egypte et de Palestine.

8. *Nina alfierina* sp. nov. (fig. 3).

Similis *joppanae* With.

Pars inferior corporis fulvo-alba.

Caput vertice ferrugineo-fusco, latiore oculo desuper viso; oculis fusco-aeneis; prosostomate duplo longiore spatio interoculari, fulvo-rubro, stria longitudinali laterali fuscescente.

Pronotum duplo longius latitudine, antice rotundatum et angustatum, fulvum, duplici stria longitudinali fuscescente. Meso- et metanotum fulva, ad latera stria longitudinali fuscescente.

Abdomen fulvo-rubidum, fulvo pilosum, aliquot tergitis basi fuscescentibus; lamina inferiore subgenitali ♂ lata, triangulari, parum prominente; cercis superioribus crassis, subcylindricis, deorsum arcuatis sive geniculatis, apice obtusis, laminam subgenitalem superantibus.

Pedes flavo-albi, fusco breviter pilosi.

Ala anterior (fig. 3) stigmate flavido, interne fusco, 3 - 4 venulis internis ad subcostam fuscis, aliis

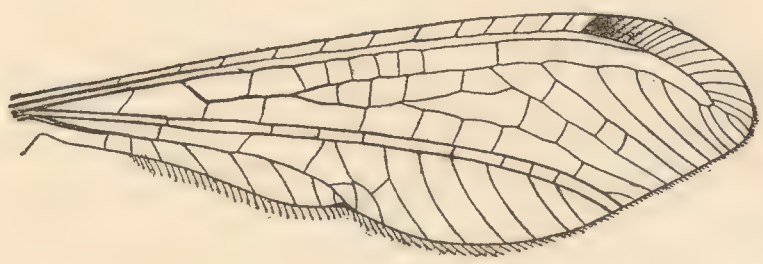

Fig. 3 — *Nina alfierina* ♂ Nav. : Aile antérieure.

externis 3 - 5 flavis, fere 12 venulis costalibus citra

stigma, 2 radialibus internis (1), 8 externis, alia ultima stigmali longe distante a praecedente, 2 - 3 intermediis, 5 - 7 externis, paucis discalibus; reticulatione subtota fulvo-pallida; bulla exigua, lineali, fuscescente, albido ciliosa, ultra tertium internum alae posita.

Ala posterior filiformis, in tertio basali flavo-alba, longius in ♀, in reliquo alba; bulla alba, ovali, albo breviter denseque pilosa, interne ad quintum basale posita.

Long. corp. ♂	7.7 mm.,	♀ 7.7 mm.
» al. ant. ♂	9.5 mm.,	♀ 11.4 mm.
» al. post. ♂	28.5 mm.,	♀ 29.5 mm.

Egypte : ♂ Wadi Hoff 9.6.1922 (coll. A. Alfieri); ♀ Wadi Digla (élevé de la larve) en Août 1922.

Cette jolie espèce est dédié à mon collègue Monsieur Anastase Alfieri qui l'a découverte.

Famille des Chrysopides

Tribu Chrysopini Nav.

1. *Chrysopa vulgaris* Schn.

Egypte : Wadi Digla (le soir à la lampe) 10.12.1924 (coll. A. Alfieri); Ghezireh (le soir à la lampe) 26.7.1917 (coll. A. Alfieri); Ghizeh 25.5.1924 (coll. A. Alfieri); Marg 15.3.1914 (coll. A. Alfieri); Galioub (obtenu d'élevage) 23.4.1917; Route de Suez (environs de la 7ème Tour) 20.2.1914 (G. Storey); Amrieh (Mariout) 4.7.1914 (Mistikawy); Minieh (Haute-Egypte)

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(1) La figure indique une seule veinule radiale interne; c'est une anomalie; on voit 2 veinules à l'aile de la ♀.

(obtenu d'élevage) 13.2.1917; Wadi Assiouti (Haute-Egypte) 1 - 2.4.1917 (G. Storey et E. W. Adair); Wadi Isla 20.3.1914; Mohammedia (Nord Est Sinaï) 5.9.1916 (P.A. Clayton).

2. *Chrysopa vulgaris* Schn. var. *carnea* Ev.
Egypte : Solloum 4.4.1916 (Williamson).

3. *Chrysopa vulgaris* Schn. var. *africana* Nav.
Egypte : Le Caire 15.8.1913 (coll. A. Alfieri) ; Ghizeh (obtenu d'élevage) 27.2.1924 (coll. A. Alfieri); Oasis de Khargueh (désert Lybique) 5.11.1924 (coll. A. Alfieri).

4. *Chrysopa vulgaris* Schn. var. *cephalica* nov.
A typo differt capite subtoto rubro suffuso.
Egypte : Ghizeh (obtenu d'élevage) 13.6.1924 ; Amrieh (Mariout) 4.7.1914 (coll. A. Alfieri).

5. *Chrysopa pretiosa* Gerst.
Egypte : Bir Kena (désert Arabique), sur *Tamarix* sp., 30.4.1925 (coll. A. Alfieri).

6. *Chrysopa Andresi* Nav.
Egypte : Meadi 31.7.1917 et 29.9.1916 (Dr. L. H. Gough); Ghezireh (le soir à la lampe) 20.10.1917 (coll. A. Alfieri).

7. *Chrysopa Alfierii* sp. nov. (fig. 4).
Caput (fig. 4 a) flavum, rubro leviter suffusum ; oculis nigris; palpis flavis, articulo ultimo labialum fuscato; antennis fusco-nigris, duobus primis articulis flavis, primo externe et apice rubro suffuso.
Thorax flavus, superne ad latera fusco-ruber,

fascia distinctiore in pronoto (fig. 4 a), subevanida in metanoto. Pronotum transversum, angulis anticis truncatis.

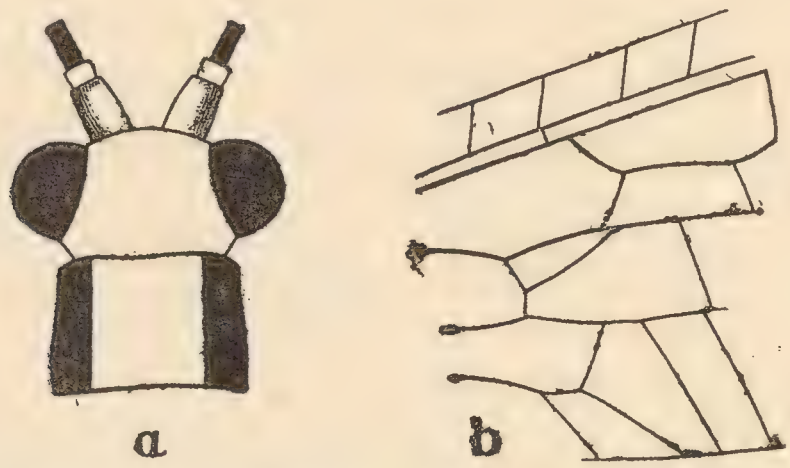

Fig. 4. — *Chrysopa Alfierii* Nav. : a. Tête et prothorax ; b. Région de la cellule divisoire de l'aile antérieure.

Abdomen flavo-viride, flavo pilosum; apice pilis fuscis.

Pedes flavi, flavo pilosi, tibiis posterioribus linea impressa longitudinali distincta.

Alae hyalinae, angustae, apice acutae; reticulatione, stigmate, pilis fimbriisque flavis; venulis gradatis fere 2/4.

Ala anterior 4 venulis intermediis, prima ad ipsum apicem cellulae divisoriae, vix citerius inserta (fig. 4 b).

Long. corp. ♂	6	mm.
» al. ant.	9	mm.
» al. post.	7.8	mm.

Egypte : Route de Suez (environs de la 5ème Tour) 21.7.1922 (coll. A. Alfieri); Bir Kena (désert arabique), sur *Tamarix* sp., 30.4.1925 (coll A. Alfieri).

8. *Chrysopa Gravesi* sp. nov. (fig. 5).

Corpus fulvum.

Caput subtotum rubido suffusum; oculis hemisphaericis, prominentibus; antennis fulvo-flavis, primo articulo fulvo, rubido.

Pronotum transversum, marginibus subparallelis; meso- et metanotum ad humeros fusca.

Abdomen fulvo pilosum, superne fuscum ♀ (1).

Pedes flavi, fusco pilosi.

Alae hyalinae, fortiter cupreo, viridi, violaceo irideae; reticulatione subtota fusca, subcosta et radio

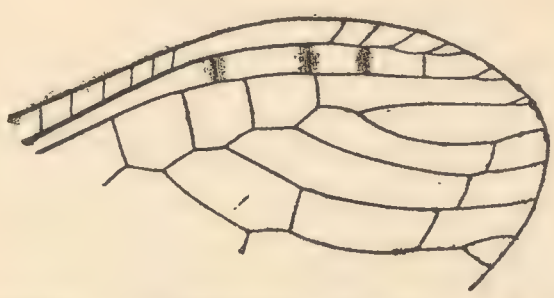

Fig. 5 — *Chrysopa Gravesi* Nav. : Extrémité de l'aile antérieure.

flavidis; 3 venulis subcostalibus pone stigma fusco limbatis (fig. 5); stigmate flavescente, parum conspicuo; pilis fimbriisque fuscis.

Ala anterior venulis gradatis 3/5, intermediis 4, ad quartum apicale cellulae divisoriae inserta.

Ala posterior venulis gradatis 2/5.

Long. corp.	7	mm.
» al. ant.	10.7	mm.
» al. post.	9.6	mm.

♀ Egypte : Kilab 25.2.1917 (Capt. P. Graves).

9. *Chrysopa Healdi* sp. nov.

Caput flavo-fulvum, vertice deplanato, stria fu-

(1) En mauvais état.

sca rubra in angulum Λ retrorsum divergente, a spatio interantennali ad oculos, alia in fronte arcuata ante singulas antennas in ∪∪; oculis fusco-aeneis; antennis duobus primis articulis flavo-fulvis, primo stria longitudinali externa, secundo annulo fusco, rubris (1).

Thorax flavo-fulvus, flavo pilosus, inferne flavus. Pronotum transversum, ferrugineo suffusum. Meso- et metanotum ad latera fuscescente maculata.

Abdomen inferne flavo-fulvum, flavo pilosum, superne fulvo-ferrugineum.

Pedes flavo-fulvi, fusco pilosi.

Alae hyalinae, irideae, apice subacutae; stigmate flavo-fulvo, venis flavis, ad venularum insertionem fere nigris; venulis gradatis nigris fere 4/6.

Ala anterior venulis primis costalibus, procubitalibus et cubitalibus, prima et ultimis radialibus, ultima procubitali totis nigris, ceteris fere initio et fine; sectore radii initio nigro; venulis gradatis internis tenuissime fusco limbatis; 4 venulis intermediis, prima ad quartum apicale cellulae divisoriae inserta.

Ala posterior venulis prope alae basim totis, ceteris fere initio et fine nigris.

Long. corp.	7.6	mm.
» al. ant.	12	mm.
» al. post.	11.2	mm.

Cette nouveauté a été capturée par Heald à Mahallah (cotes du Sud de l'Arabie) le 20.1.1920. Je l'ai signalée ici car elle pourrait se retrouver un jour en Egypte ou en Palestine.

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(1) Le reste manque.

10. *Cintameva Storeyi* sp. nov. (fig. 6).

Caput flavo-fulvum; vertice duabus striis arcuatis retrorsum divergentibus pone antennas, nigris ; stria ad genas et ad clypei latera, duobus atomis in labro, nigris; antennis flavis, primo articulo stria externa et puncto apicali interno, nigris.

Thorax flavo-fulvus, superne striis fuscis lateralibus in meso- et metanoto. Pronotum transversum, marginibus subparallelis.

Abdomen flavo-fulvum, pilis concoloribus, superne stria fusca longitudinali ad latera, interrupta.

Pedes flavo-fulvi, pilis concoloribus, apice femorum, tibiarum et articulorum tarsorum fuscescente.

Alae irideae, acutae; reticulatione flavo fulva, in maculis fusca; stigmate fulvo, interne fusco, venulis costalibus fuscis.

Ala anterior (fig. 6) aliquot venulis umbris ferrugineis limbatis; praecipue initio sectoris radii, ad venulas gradatas internas, inter apicem rami sive se-

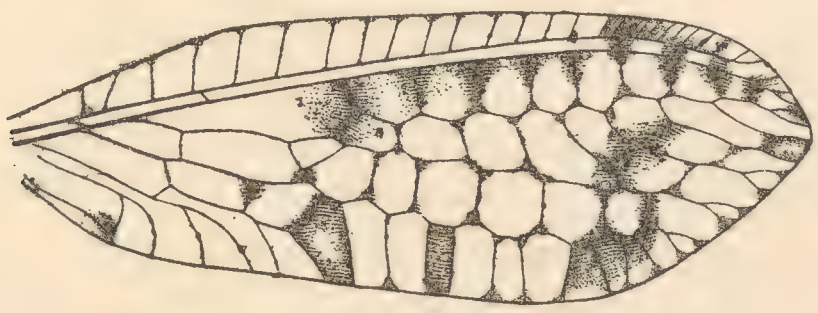


Fig. 6 — *Cintameva Storeyi* Nav. : Aile antérieure.

ctoris cubiti et inter primam venulam marginalem externam, ad angulum posteriorem; item in venulis radialibus ad radium; venulis gradatis 2/3.

Ala posterior paucis venulis subcostalibus et ra-

dialibus ultimis ferrugineo limbatis, item apice cubiti et primae venulae marginalis posterioris externae; venulis gradatis 3/4, fuscis.

Long.	corp.	6.6 mm.
»	al. ant.	9.6 mm.
»	al. post.	9 mm.

Egypte : Nag Hamadi (Haute-Egypte) 17.8.1917 (G. Storey).

Tribu Nothochrysini Nav.

11. *Notochrysa stigmatica* Ramb.

Egypte : Wadi Digla 29 - 31.5.1924 (C. B. Williams et T. W. Kirkpatrick).

Famille des Hémérobides

Tribu Hemerobini Nav.

1. *Hemerobius nervosus* F.

Egypte : Le Caire (le soir à la lampe) 11.2.1918 (coll. A. Alfieri); Meadi 26.3.1913 et 5.5.1918 (Dr. L. H. Gough); Wadi Natroun 19.2.1923 (C. B. Williams).

Tribu Sympherobini Nav.

2. *Nefasitus fallax* Nav.

Egypte : Le Caire 18.2.1912, 26.6.1919, 8.10.1918, 16.11.1918, 23.12.1918, éclos d'agglomérations de *Phenacoccus hirsutus* Green qui est une cochenille infestant divers arbres de la ville; Meadi 30.9.1918 et Embaba 5 - 10.11.1920, obtenus de *Phenacoccus hirsutus;* Nouzha (Alexandrie), éclos 22.10.1917 de branches de figuiers rapportées le 29.9.1917.

Famille des Bérothides

1. *Nodalla* Gen. Nov.

Caput antennis moniliformibus.

Pronotum fere longius latitudine.

Pedes tibiis posterioribus cylindricis, haud compressis.

Alae apice rotundatae, margine externo convexo; subcosta et radio ad regionem stigmatis confluentibus; sectore radii fere 4 ramis; procubito prope basim diviso, utroque ramo apice furcato; une serie venularum gradatarum.

Ala posterior ramo posteriore cubiti cum anteriore confluente citra medium alae.

Le type est *Nodalla aegyptiaca.*

La création de ce nouveau genre nécessite la modification des coupes de la famille des Bérothides proposées par Krüger (Stett. Entom. Zeit., 1922, p. 84), parmi lesquelles on devra aussi intercaller la nouvelle tribu qui suit :

2. *Nodallini* Trib. Nov.

Alae margine externo convexo, nullatenus emarginato sive concavo; subcosta cum radio ad regionem stigmatis in utraque ala manifeste confluentibus.

Le type est le genre *Nodalla* Nav.

En réduisant les sous-familles des *Berothinae* et *Sphaeroberothinae* de Krüger au rang de Tribus, la subdivision de la famille des Bérothides en tribus sera la suivante :

1. Souscostale et radius confluents à la région du stigma 2

— Veine sous-costale et radius nettement séparés sur

toute la longueur dans les deux ailes, reliés par une veinule apicale manifeste; marge externe des deux ailes convexe. 3. *Sphaeroberothini* nom.nov.

2. Ailes arrondies ou obtuses au bout; marge externe convexe ..... 2. *Nodallini* Nav.
— Ailes aigues au bout, falciformes, à marge externe plus ou moins concave .... 1. *Berothini* nom. nov.

3. *Nodalla aegyptiaca* sp. nov. (fig. 7).

Fulvo-straminea, pilis stramineis longulis.

Caput oculis fusco-aeneis; palpis stramineis; antennis flavo-stramineis, articulis transversis, primo elongato.

Thorax longis pilis hispidus. Meso- et metanotum ad humeros fulvo-ferruginea.

Abdomen inferne stramineum, superne fulvo-

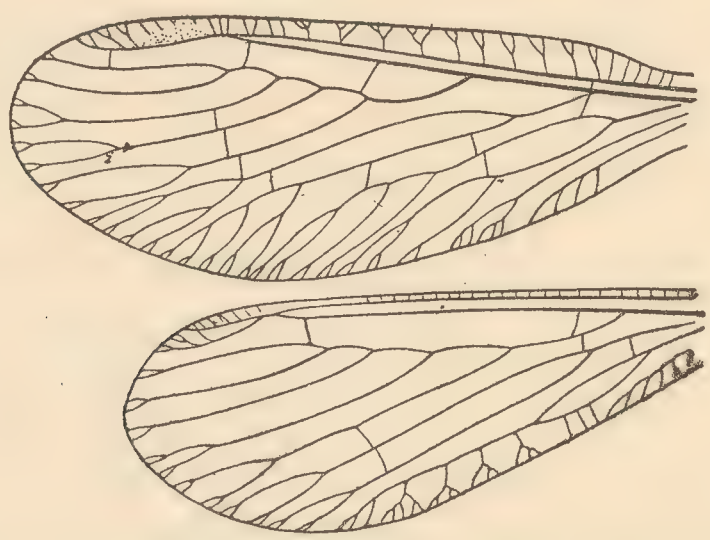


Fig. 7 — *Nodalla ægyptiaca* Nav. : Ailes.

ferrugineum, margine postico segmentorum stramineo; stylis stramineis, cylindricis.

Pedes straminei, pilis longis stramineis ; tibiis posterioribus paucis atomis fuscis notatis.

Alae (fig. 7) stigmate albido, parum sensibili, reticulatione, pilis fimbriisque stramineis vel stramineo-albis; venulis fuscis.

Ala anterior venis, ramis, venulisque costalibus atomis fuscis respersis; area costali basi angusta, medio parum dilatata, venulis plerisque ad costam furcatis aut ramosis; venula radiali interna inter subcostalem et ortum sectoris radii; umbris fulvis in striolas transversas, pone procubitum distinctiores; venulis 3 externis radialibus et 5 gradatis leviter fulvo limbatis; procubito paulo citra ortum sectoris radii furcato; 3 venulis procubitalibus, interna cum subcostali continuata, una cubitali, seu secunda cellula cubitali aperta; venula gradata pone radialem pallida.

Ala posterior pilis fimbriisque longis; axillis furcularum marginalium fuscis; procubito inter ortum sectoris radii et primi rami furcato; venula intermedia paulo citra venulam procubitalem sita, cubitali longe citerius.

Long. corp. ♀		5.1 mm.
»	al. ant.	7.3 mm.
»	al. post.	6.5 mm.

Egypte : Wadi Guffan 6.7.1916 (coll. A. Alfieri).

4. *Nodalla sinaitica* sp. nov. (fig. 8).

Fulva.

Caput stramineum, stramineo pilosum, duabus maculis in vertice postice et duabus in fronte ante antennas fuscis; oculis fuscis; palpis stramineis, ultimo articulo labialium fusiformi, acuto, subtoto fusco; antennis stramineis, pilis fuscis tenuissime fuscescente annulatis, primo articulo elongato, cylindrico.

Pronotum fulvum, fusco dense hispidum, maxime ad latera; linea longitudinali ad latera, duabus tenuibus in medio, fuscis. Meso- et metanotum fulva, ad latera sive ad humeros fusca.

Abdomen fulvo pilosum, inferne fulvum, superne fulvo-ferrugineum ; stylis stramineis, stramineo pilosis.

Pedes straminei, stramineo longiter pilosi; tibiis posterioribus atomis fuscis respersis.

Alae hyalinae, irideae, stigmate albido, parum sensibili.

Ala anterior (fig. 8) venis omnibus venulisque costalibus fulvo-flavis, fusco crebro punctatis; venu-

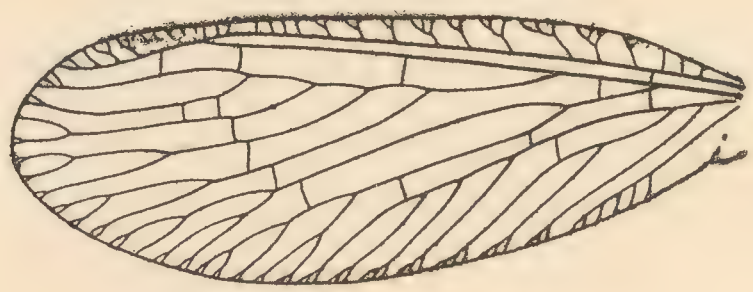


Fig. 8 — *Nodalla sinaitica* Nav. : Aile antérieure.

lis fuscis; area costali basi angusta, medio parum ampliata, venulis inibi ad costam furcatis aut ramosis; venula radiali interna inter venulam subcostalem et ortum sectoris radii; sectore radii 4 ramis; procubito paulo citra ortum sectoris furcato; venulis 3 radialibus externis et gradatis 5 inter sectorem et ramum posteriorem procubiti leviter fusco limbatis ; membrana umbris levibus brevibusque fere transversis, magis sensibilibus inter ramos cubiti, fusco-griseis ; una venula cubitali inter ramum anteriorem et posteriorem.

Ala posterior venis subtotis et venulis costalibus fulvo-pallidis; venulis 3 discalibus et axillis furcularum fuscis; sectore radii 4 ramis; venula intermedia paulo ultra subsequentem sive procubitalem inserta, cubitali longe citra procubitalem.

Long. corp. ♀		5.8 mm.
»	al. ant.	7.8 mm.
»	al. post.	7.3 mm.

Egypte : Aux environs du Wadi Um Rayig (Sud Sinai) 28.3.1924 (P. A. Clayton).

Famille des Conioptérigides

Tribu Conwentzini Enderl.

1. *Conwentzia psociformis* Curt.

Egypte : Barrage 10.10.1924 (C. B. Williams).

2. *Conwentzia pineticola* Enderl.

Egypte : Le Caire, trouvé le 27.3.1919 dans cage d'élevage contenant matériel infesté par *Aspidiotus aconidum* (Hémipt-Coccide); Le Caire (le soir à la lampe) 15.11.1911 (coll. A. Alfieri).

Tribu Coniopterygini Enderl.

3. *Semidalis curtisiana* Enderl.

Egypte : Wadi Um Elek 21.3.1924 (coll. A. Alfieri); Wadi Digla 1.8.1924 (C. B. Williams et A. Alfieri); Mahatta Maskhara 24.3.1924 (C. B. Williams).

Embioptères

Famille des Embides

1. *Embia Savignyi* Westw.

Egypte : Choubrah 10.4.1917 (coll. A. Alfieri);

Bilbeis 1.9.1914; Teh-el-Baroud 30.4.1915 (Dr. L. H. Gough); Mazarita (Ramleh, banlieue Alexandrie) 12-18.5.1914 (coll. A. Alfieri); Assouan (Haute-Egypte) 30.4.1915 (Capt. K. J. Hayward).

Famille des Oligotomides

1. *Oligotoma Latreillei* Ramb.

Egypte : Meadi 1-13.5.1914, 6-16.6.1915, 1.8.1914, 6.10.1913 (Dr. L. H. Gough); Gemeiza 10.7.1918 (E. W. Adair); Ismaïlia (zône du Canal Maritime de Suez), sur *Tamarix* sp., 20.7.1924 (coll. A. Alfieri); Nag Hamadi (Haute-Egypte) 17.8.1917 (G. Storey); Assouan (Haute-Egypte) 11.10.1921 (Capt. K. J. Hayward).

Ephéméroptères

Famille des Polymitarcydes

1. *Polymitarcys Savignyi* Pict.

Egypte : Meadi 25.6.1916, 20.7.1915, 12.9.1915 (Dr. L. H. Gough); Teh el Baroud 15.7.1915; Samalout 27.5.1918 (G. Storey).

Famille des Bétides

1. *Cloeon dipterum* L.

Egypte : Le Caire 15.5.1913 (coll. A. Alfieri); Choubrah 4.11.1916 et 23.12.1915 (E. W. Adair); Ghizeh 28-30.1.1913; Meadi 2.4.1916, 1.8.1914, 8.10.1913 (Dr. L. H. Gough), 4.11.1916 (Bolland), 16.3.1917 (coll. A. Alfieri).

2. *Cloeon simile* Eat.

Egypte : Meadi 15.12.1912 (Dr. L. H. Gough).

Famille des Cénides

1. *Caenis Haywardi* sp. nov.

Caput transversum, fulvum, inter oculos fuscescens; oculis prominentibus, hemisphaericis, in sicco nigris.

Thorax fulvo-flavus. Pronotum transversum, fascia media longitudinali et linea ad margines laterales fusco-nigra.

Abdomen inferne fuscescens, superne subtotum fuscum, margine posteriore segmentorum fulvo; urodiis albis late nigro annulatis, vel potius nigris albo annulatis; cercis flavidis.

Pedes fulvo-flavi, anteriores fusci, ad articulationes fulvo-flavi, tarsis totis flavescentibus.

Alae hyalinae, reticulatione albo-flava, prope basim fuscescente, costa in medio vel tertio basali, subcosta et radio subtotis fuscis.

Long. corp.	3.3	mm.
» al.	4.4	mm.
» urod.	10.?	mm.

Egypte : Assouan (Haute-Egypte), le soir à la lampe, 3.2.1921 (Capt. K. J. Hayward).

Trichoptères

Famille des Polycentropides

1. *Dipseudopsis fasciata* Brau.

Egypte : Le Caire, le soir à la lampe, 10.10.1911 (coll. A. Alfieri); Ghizeh 10.7.1915; Meadi 8.6.1915, 12-18.9.1915, 20.9.1914, 25.9.1917 (Dr. L. H. Gough), 12.9.1916 (G. Storey), 25.8.1924 (C. B. Williams); Wadi Digla, le soir à la lampe, 5.8.1923, 7-8.9.1923 (C.

B. Williams); Ballah 10.6.1916, 1.8.1922 (A. W. Boyd); Flemmnig (Ramleh, banlieue Alexandrie) 25.9.1914 (coll. A. Alfieri).

Famille des Hydropsychides

Tribu Hydropsychini

Nom. Nov. (Hydropsychinae Ulm.)

1. *Hydropsychodes Alfierii* sp. nov.

Corpus fusco-nigrum.

Caput nigrum, pilis densis aureis vestitum hirtumque; oculis in sicco nigris; palpis testaceis, fulvo pilosis, articulo primo maxillarium fuscescente; antennis tenuibus testaceo-fulvis, in medio basali articulis apice fuscis.

Thorax fulvo pilosus.

Abdomen fulvo modice pilosum, valvis ♀ testaceis.

Pedes fulvi, fulvo pilosi, femoribus testaceo-ferrugineis.

Alae reticulatione, pubescentia, fimbriis fulvis.

Ala anterior membrana leviter fulvo tincta, pubescentia densiuscula, partim fuscescente; furca apicali 1 breviore suo pedunculo, 2 sessili, quartam partem cellulae discalis penetrante, 3, 4, 5 longitudine subaequalibus, longis, 3 pedunculo brevissimo, 4 quartum cellulae mediae penetrante.

Ala posterior hyalina, pubescentia fulva, rariore; furca apicali 2 plus quam tertium cellulae discalis penetrante, 3 multo breviore secunda, subaequali suo pedunculo, 5 longa, breviter pedunculata.

Long. corp. ♀	6.	mm.
» al. ant.	7.3	mm.
» al. post.	5.4	mm.

Egypte : Le Caire, 30.7.1913 (coll. A. Alfieri). Un seul exemplaire ♀ que je ne puis rapporter à aucune espèce connue. En le décrivant comme nouveau je me suis fait un plaisir de le dédier à mon collègue Monsieur A. Alfieri qui l'a découvert.

2. *Hydropsychodes socia* sp. nov. (fig. 9).

Caput fulvum, fulvo pilosum; oculis in sicco fusco-nigris; antennis ala anteriore longioribus, fulvis, in medio basali apice articulorum fusco.

Thorax inferne fulvo-ferrugineus. Mesonotum ferrugineo-fuscum, metanotum fulvo-ferrugineum.

Abdomen fulvum, vel fulvo-flavum, pilis conco-

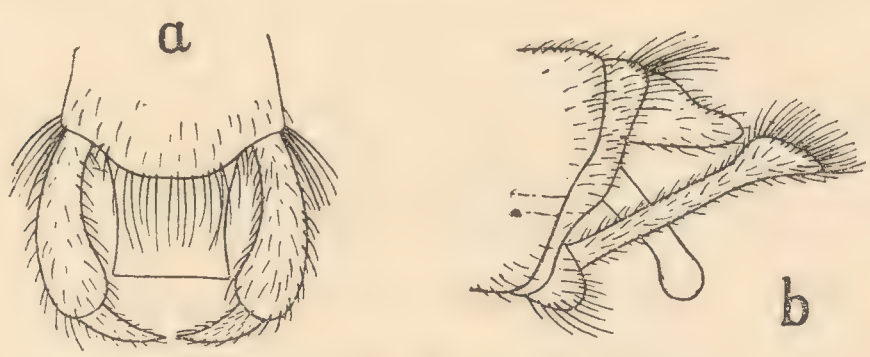


Fig. 9 — *Hydropsychodes socia* ♂ Nav. : a. Extrémité de l'abdomen, vu d'en dessus ; b. le même vu de côté.

loribus; lamina dorsali desuper visa (fig. 9 a) subrectangulari apice angulata, a latere visa (fig. 9 b) inferne recta, superne ad medium excisa; cercis superioribus arcuatis, articulo primo apice incrassato, a latere viso apice subcuneiformi, secundo multo angustiore, acuto; copulatore cylindrico, apice dilatato, rotundato-elongato.

Pedes fulvi, fulvo pilosi.

Alae membrana hyalina, reticulatione fulva.

Ala anterior pubescentia fulva, in medio apicali plerumque fusca; furca apicali 1 paulo longiore suo pedunculo, 2 sessili vel subsessili; 3 longa, pedunculo brevissimo, 4 sessili, subaequali tertiae, area marginali posteriore fulva.

Ala posterior pubescentia rara, fulva, fimbriis fulvis; furca apicali 3 brevi, pedunculo multo longiore, 5 longa, pedunculo brevissimo.

Long. corp. ♂	5.3 mm.,	♀ 4.8 mm.
» al. ant.	8.6 mm.,	6.8 mm.
» al. post.	6.4 mm.,	5.5 mm.

Egypte : Meadi 7.8.1915 (Dr. L. H. Gough) & 1.8.1915 (G. Storey); Chebine el Kom 25.6.1917 (Dr. L. H. Gough); Kerdacé 5.12.1920 (coll. A. Alfieri); Assouan (Haute-Egypte) 2.5.1921 (Capt. K. J. Hayward).

Tribu Macronematini

Nom. Nov. (Macronematinae Ulm.)

3. *Phanostoma curvinerve* sp. nov. (fig. 10).

Corpus totum fulvum, fulvo pilosum.

Caput oculis in sicco fuscis; antennis fulvis, vix fuscescente annulatis ad articulationes; palpis tenuibus, fulvis.

Pronotum fortiter transversum, medio divisum sive sulcatum.

Abdomen superne fuscescens, margine postico segmentorum fulvo.

Pedes fulvo-pallidi, dilatatione pedum mediorum membranacea, hyalina; calcaribus fulvis.

Alae (fig. 10) hyalinae, irideae, reticulatione tenui, fulvo-albida.

Ala anterior sectore radii ad medium curvato, antrorsum in arcum flexo; furca apicali 1 longiter pe-

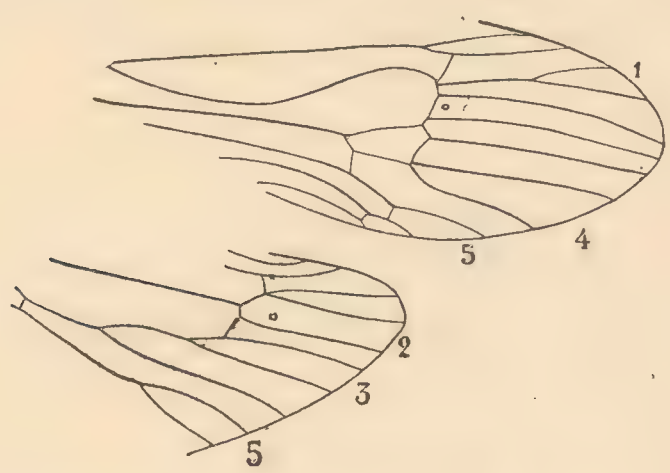


Fig. 10 — *Phanostoma curvinerve* Nav. : Extrémité des ailes.

dunculata, pedunculo fere longiore ramo posteriore furcae; cellula discali subtriangulari convexa vel potius pentagonali, venula in tertio interno sita.

Ala posterior vitrea, furca apicali 2 latiore interne quam externe, 3 paulo longiore, interne acuta, 5 breviore 3.

Long. corp. ♀		8.3 mm.
»	al. ant.	11.5 mm.
»	al. post.	8.4 mm.

Egypte : Le Caire 16.2 et 20.7.1916 (coll. A. Alfieri); Meadi 7.8 et 11.9.1915 (Dr. L. H. Gough); Zagazig 10.7.1913 (G. Storey); Nag Hamadi (Haute Egypte) 17.8.1917 (G. Storey).

Famille des Leptocérides

1. *Setodes gracilis* Ulm.

Egypte : Meadi, le soir à la lampe, 10.2.1923 (C. B. Williams).

2. *Parasetodes respersella* Ramb.

Egypte : Ghezireh, le soir à la lampe, 20 - 23.10. 1917 et Kerdacé 5.12.1920 (coll. A. Alfieri).

Séance du 10 Novembre 1926

Présidence de M. le Dr. Bronislaw Debski
Vice-Président

Dons pour la Bibliothèque :

Monsieur C. H. Curran, du Canada, adresse huit brochures de ses travaux sur les Diptères.

Démission :

Notre estimé collègue, Monsieur W. J. Hall, quittant définitivement l'Egypte, adresse sa démission.

Nominations :

1°) Le Conseil de la Société confère le titre de Membre Correspondant à Monsieur W. J. Hall.

2°) Sont admis à faire partie de la Société au titre de membres titulaires :

Monsieur H. H. King, chef Entomologiste du Gordon College (Khartoum, Soudan), présenté par MM. C. B. Williams et A. Alfieri; Monsieur Gino Morpurgo, du Caire, présenté par MM. C. B. Williams et A. Andres; Monsieur J. E. M. Mellor, Entomologiste à la Plant Protection Section du Ministère d'Agriculture au Caire, présenté par MM. C. B. Williams et Fred Shaw.

Communications

Carabides Egyptiens (Coléop.)

(avec les figs I, II et III).

par P. de Peyerimhoff.

M. An. Alfieri m'a prié de déterminer une série de Coléoptères égyptiens comprenant en majeure partie des *Carabidæ*.

J'y ai reconnu, entre autres, le *Dyschirius punctatus* [Dej.] Bed. (*minutus* [Putz.] J. Müll.), espèce banale et à vaste répartition, qui ne semble pas, cependant, avoir été citée d'Egypte. Le spécimen étudié provient de Tourah (1.6.1924).

Mais les éléments les plus remarquables de cette série sont constitués par trois *Dromius*, dont deux sont nouveaux et par un insecte appartenant à un genre également nouveau, voisin des *Dromius*, néanmoins différent par plusieurs caractères essentiels.

1. ***Dromius (Manodromius) cylindraticollis***, n. sp. (fig. I). — Long. 5,5 mm. ; lat. coleopt. 1,5 mm. — *Elongatissimus, calvus, pallide testaceus, capite rufulo, coleopteris immaculatis. Caput porrectum, lucidum, impunctatum, antice sat grosse longitudinaliter rugatum, oculis mediocribus, temporibus postice convergentibus, pilis aliquot infra ornatis, antennis tenuatis, ultra humeros vix productis, art.* 3° *penicillo ad apicem excepto glabro, labro rotundato.*

Pronotum pulvinatum, capite manifesto angustius, fere sesqui longius quam latius, cylindricum, late-

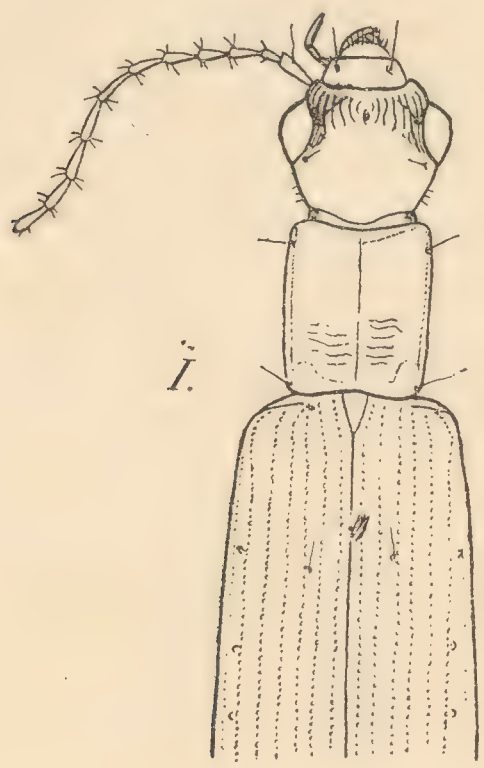


Fig. I — *Manodromius cylindraticollis*, n. sp. (avant-corps).

ribus bisetosum, antice et postice subtruncatum, angulis quaternis retusis, marginibus perparum reflexis, translucidis, foveis basalibus magnis, impunctatis, disco transversaliter rugato, stria mediana subtili. Coleoptera plus duplo longiora quam latiora, versus apicem sensim ampliata, striato-punctata, interstitiis planis, punctis subpiliferis intus duobus, 1° ante tertium anticum ad striam tertiam, 2° subapicali pone striam secundam, extus 5 ad striam sextam notata. Tarsorum unguiculi intus serrati.

Hab. in Aegypto.

Sakka, 10.4.1922 (coll. Alfieri).

Très remarquable par son pronotum extraordinai-

rement allongé, à côtés parallèles. Les autres caractères le rapprochent du *D. linearis* Oliv.

2. ***Dromius (S. Str.) Alfierii,*** n. sp. (fig. II). — Long. 7,5 mm.; lat. coleopt. 2,6 mm. — *Elongatus, calvus, pallide testaceus, capite rufescente, coleopteris sutura offuscata, lituraque brunnea circa tertium apicalem medio notatis. Caput subtilissime punctulatum, oculis magnis, prominulis, temporibus indicatis obliquis, collo crasso, antennis tenuissimis, ultra humeros parum prolaxis, art. 3° penicillo ad*

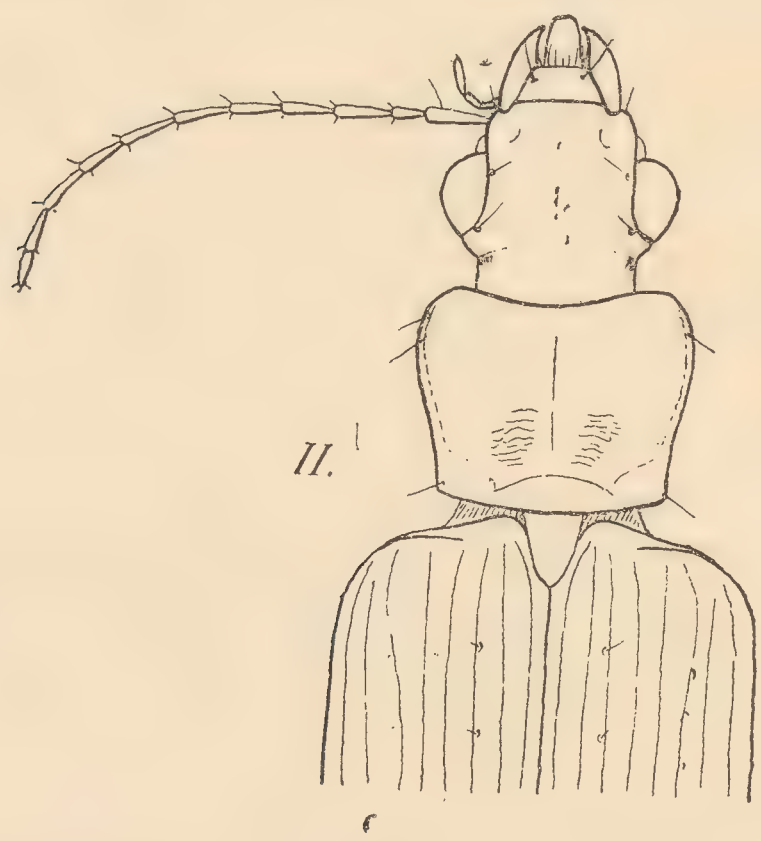


Fig. II — *Dromius Alfierii,* n. sp. (avant-corps).

apicem excepto glabro (labro apud specim. exam. retracto). Pronotum transversum, antice leniter emarginatum, basi subcurvatum, lateribus rotundatum, postice attenuatum, marginibus reflexis, angulis anticis rotundatis, posticis obtusis, foveis basalibus magnis, perparum autem impressis, disco subtiliter ru-

gato, stria mediana subtili. Coleoptera duplo longiora quam latiora, levigata, lucida, bene striata, punctis in striis nullis, stria scutellari obliterata, interstitiis subconvexis, punctis subsetigeris intus perminutis septenis ad tertium, extus 9-10 *ad septimum notatis. Tarsorum unguiculi denticulis fere totis atrophis.*

E peninsula sinaitica.

Sinaï méridional : Wadi Rayig, 23.3.1924 (coll. Alfieri).

Voisin de *D. meridionalis* Dej. Tout différent par son système de coloration à dominante claire, les yeux plus gros, le cou plus distinct des tempes, bien plus épais, les élytres à fond presque totalement lisse, l'oblitération de la strie scutellaire, les ongles des tarses à denticulation interne presque complètement atrophiée.

Chez le *type*, le pore antérieur de la marge latérale du pronotum est dédoublé à gauche et il y a également deux soies.

3. *D.* (*Dromiolus*) *sellatus* Motsch. — Sinaï méridional : Wadi es Saadi, 15.4.1924. — L'insecte correspond bien à la trop courte diagnose de Motschulsky, et surtout aux commentaires qu'en a donnés L. Bedel (Cat. Col. Tunisie, I, p. 50, — et Catal. rais. des Col. du Nord de l'Afrique, I, p. 276).

4. PSAMMODROMIUS, *Lebiinorum* nov. genus. — *Corpore minuto supra calvo, ex toto alutacio, labro plano, emarginato, mandibulis brevibus, incurvatis, antennarum art.* 3° *penicillo apicali excepto fere glabro, articulo ultimo palporum labii ampliato, apice oblique truncato, maxilli pilis aliquot subtilissimis*

ornato, coleopteris sulcis vagissimis tantum instructis, utrinque ad scutellum poro notatis, stria scutellari indicata, punctis piliferis (serie marginali excepta) nullis, tarsis supra pilosis, unguiculis simplicibus.

Ce genre, qui doit se placer auprès des *Dromius*, dont il a tout l'aspect, en diffère essentiellement par le labre échancré, les mandibules courtes, le dernier article des palpes labiaux épaissi et obliquement tronqué, les tarses pileux en dessus et les ongles sans trace aucune de denticulation interne. La couleur entièrement d'un testacé rougeâtre, les téguments alutacés, les yeux très gros et très saillants, donnent à penser qu'il s'agit d'un insecte désertique et probablement nocturne.

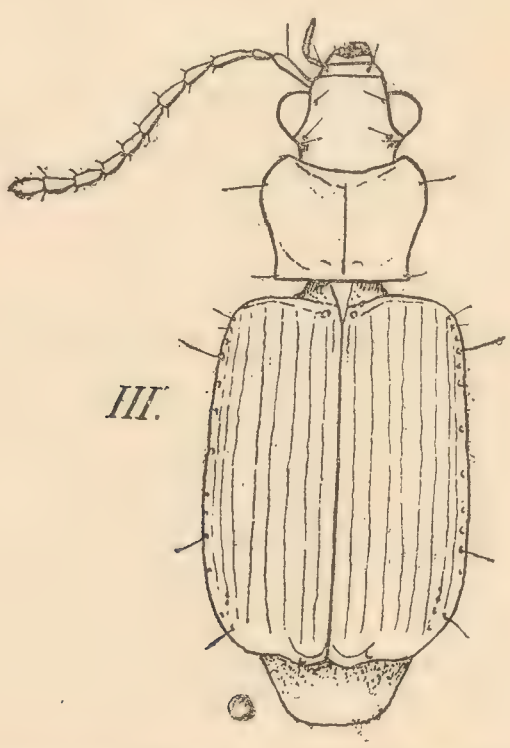


Fig. III — *Psammodromius noctivagus*, nov. gen., n. sp.

Psammodromius Noctivagus, n. sp. (fig. III). — Long. 4 mm.; lat. coleopt. 1,5 mm. — *Parum elongatus, oculis exceptis ex toto rufo-testaceus, subtiliter perdense alutacius et hoc vix nitidus. Caput*

pronoto angustius, nec punctatum, nec rugatum, oculis permagnis, hemisphaericis, prominulis, temporibus fere nullis, collo brevi, crasso, parallelo, antennis sat tenuibus, ultra humeros prolaxis. Pronotum transversum, antice curvatim emarginatum, basi truncatum, lateribus rotundatum, subtiliter marginatum, versus basin angustatum, angulis anticis retusis, posticis rectis, prominulis, foveis basalibus magnis, vix impressis, stria longitudinali profunda. Coleoptera sesquilongiora quam latiora, apice bisinuata, sulcis vagissimis impunctatis insculpta, interstitiis leniter convexis, poris duobus pone scutellum notata, margine laterali punctis numerosis, aliquot setigeris ornata.

Hab. in Aegypto.

Amrieh (Mariout), 17.4.1914 (coll. Alfieri).

Records of Migratory Insects, chiefly from Africa.

by C. B. Williams M.A. F.E.S.

In a series of papers in the Transactions of the Entomological Society of London during the last few years I have put on record a number of observations made by myself or collected from other observers on migratory insects, particularly Lepidoptera. The papers written since 1921, during my residence in Egypt, contain numerous references to migratory insects in this country. These will be found in T.E.S. London 1923 p. 207, 1925 p. 439 & 1926 (in the press). The present paper contains the continuation of my notes on the Egyptian migratory insects and a number of other records mostly relating to the continent of Africa.

The records in my paper in T.E.S. 1926 include observations made or received up till 14 November 1925. The present records continue from that date.

The records dealt with below may be summarised as follows:—

Vanessa cardui.

In Sudan.
In S.W. Egypt in 1925-6.
In Cairo district in 1925-6.
In Mediterranean in 1926.
In Spain in 1926.
In S. France in 1926.
In N. Italy in 1926.
In Indian Ocean in 1926.

Catopsilia florella.

In Rhodesia in 1904 and 1923.
In Kenya 1921-22 and 1925.
In Egypt in 1926.

Pieris mesentina in Kenya in 1926.

? *Leucania loreyi* in Egypt in 1926.

Agrotis ypsilon in Egypt.

Coccinellidae swarming in Egypt.

Vanessa cardui in the Sudan.

Mr. H. B. Johnston of the Wellcome Research Laboratories, Khartoum, kindly supplies the following notes from the Red Sea Coast of the Sudan.

"1922 March 24th. Three *V. cardui* taken at Southern Point of Runwaya (this is the peninsula running North and East of Dongonab Bay).

1922 July 10th. Large numbers of painted ladies have been about during the last two days. Wind has been strong from N. W. and temperature high. There were four in my room at one time this morning — all very worn specimens and many undersized."

Mr. Johnston adds "My recollection is that we used to get a very regular immigration of *V. cardui* and other lepidoptera with the change of the wind to N. W. in June and July. These winds usually brought high temperature and sand storms. *Danais chrysippus* also used to be common but they would probably be bred in the foot-hills on *Calotropis*. These

were also fresh whilst *V. cardui* was usually very worn."

Mr. William Ruttledge gives me the following notes for 1925 for the Wad Saadalla (near Wad Medani about 150 kilometres S.E. of Khartoum, on the Blue Nile).

First noticed in fair numbers 6th-11th Aug. 1925.

On 13th August he writes " Since I wrote last [28th July] *V. cardui* has put in an appearance — How or from where they came I have not discovered but every evening for the last week or more from about 4 p.m. nearly every " Tukl " on the tenants holding shelters one or more individuals on the leeward side."

After a month of gradual diminution in numbers they reappeared again as before on 4th September. On the 26th September after another lapse a few more were about.

After another month of decrease there was another distinct increase on 30th October. On 9th November he records that they were observed every afternoon in places sheltered from the wind and also several specimens were seen daily in the open visiting flowers, which had not been noticed before.

On the 17th November they were still numerous and possibly slightly increased in numbers.

Mr. Ruttledge notes that about the end of October the wind went round from the South and was at the time of writing (20 November 25) well fixed at north for the winter months.

In view of the complete absence of records of the seasonal abundance of *V. cardui* in the Sudan, which

country is now known to be one of the sources of the great flights which cross the Desert and the Mediterranean to Europe, these notes are of great interest and it is hoped that many more will be forthcoming.

V. cardui in S.E. Egypt.

The extreme South Eastern corner of Egypt, bordering on the Sudan and the Red Sea has been very seldom visited. In this district there are high mountains reaching over 4500 feet in Gebel Elba and the desert conditions are beginning to give way to more abundant vegetation.

This area is one of those from which the swarms of *V. cardui* which pass through Egypt may possibly come, and it is therefore of great interest to get the following notes from Mr. G. W. Murray who was making a Geological Survey of this area for the Egyptian Government in the winter of 1925-26.

Mr. Murray writes (from Gebel Elba 28 Feb. 26) : "As in 1924, immediately after the November rains I noticed butterflies sporting and mating, dark species on the hills, painted ladies on the plains. Before the showers had finished falling the butterflies were out. These had clearly aestivated. My diary has on Nov. 14th " rain and butterflies sporting," and again on 16th November " more heavy rain and dark spotted butterflies [*Hypolimnas misippus*] sporting." This in a district a little further north. On arrival in the Elba region heavy rain on December 15th and again on December 20th. On 27th December ground covered with thousands of larvae of two different sorts. On January 15th innumerable hosts of

painted ladies fluttering round as one crosses the coastal plain. On Jan. 28th the painted ladies are markedly fewer and getting faded. On Feb. 17th (in the hills) rain and a spotted butterfly, the first seen for a long time. On Feb. 23rd (in the plain) no painted ladies seen anywhere, grass dry and withered. On February 28th a few painted ladies seen in an upland valley. Where are the others? Some must be aestivating to carry on the species, are the rest on a Cooks tour to Iceland?''

V. cardui in Cairo district Nov. 1925 *to August* 1926.

In Trans. Ent. Soc. London 1926 I recorded that the first specimen of *V. cardui* seen in the autumn of 1925 was on 20 Sept., another on 4th October and from 8th October to 20th of November half a dozen could be seen any day.

My personal notes from this date to the middle of May 1926 have unfortunately been lost but I recollect that *V. cardui* remained not uncommon throughout the winter, which was warmer than of 1924-5.

At Giza a daily watch was kept for one hour per day (11-12 a.m.) and while usually less than half a dozen were seen the following records during March indicate sudden increases of numbers on certain dates particularly on the 11th and 19th; no direction was noted by the observer. Days on which none were recorded were without exception cold and cloudy.

March	1	2	3	4	5	6	7	8	9	10	11	12	13
No.	16	0	0	0	0	0	9	0	18	0	61	30	0

March	14	15	16	17	18	19	20	21	22	23	24	25
No.	5	20	14	24	4	56	6	2	3	3	1	2

I was away from Egypt during March and April but fortunately several observers obtained notes for me on a definate migration which occured on the 25th April and which appears to have been the largest for many years.

Mr. R. E. Moreau writing on 25th April from Maadi just South of Cairo describes the migration as follows :

" To day I have seen the best marked migration of painted ladies in my experience. The last two days have been hot with strong dusty N.E. winds. This morning was comparatively cool with a light breeze from approx. N. or N. by W. At 9 o'clock I noticed that the garden was full of painted ladies. There must have been at least 30 on our little patch of libia. I found that they seemed to be coming in over the South hedge. Waiting there between 9.10 and 9.15 I counted 41 of the butterflies coming into the garden. A few dropped on the libia, most carried on purposefully over the house and apricot trees, and not more that half a dozen drifted back over the hedge. They were not flying high, probably not more than 10-12 feet above the ground, and usually singly. Their direction was very constant — S.E. to N.W. Most of the insects were in very bright " plumage ". I saw one ♀ sulphur butterfly arrive with the others and at least 2 dragonflies, one blue and the other the big greenish-grey form.

Between the house and the station at 9.30 there were dozens of painted ladies, practically all either resting on the lately watered road or crossing it from L. to R. (S. to N.) The flower bed by the post office

was alive with them, and many were passing through the station.

At a spot in the fields West of Boulac Dacrur at 11 o'clock we watched for a few minutes. The berseem was full of painted ladies and they were also numbers of them flying singly and steadily in the constant direction of N.W. There were also a lot of white butterflies in the berseem and in so far as they moved it was in the same directions, viz. N.W. The direction of the wind was still approximately N.

At 12.30 in Maadi the place was still alive with painted ladies but there was no such marked movement in a definite direction as earlier. There were still many about at sunset in the gardens, the plantations and in the scrub E. of the railway line.

This migration was also witnessed by Mrs. R.E. Moreau and my wife.

On the following day, Monday 26th, Mr. Moreau reported they were still in great numbers and "such movement as was visible was to the N.W." On Tuesday 27th they were " not so common."

On Wednesday 28th I returned to Cairo and found in my garden at Maadi in the late afternoon *V. cardui* still in greater abundance than I had ever before seen it in Egypt (except perhaps during the flight of 25 March 1924) together with numbers of *Plusia gamma* which were flying round the flowers at dusk.

These numbers rapidly decreased and a week after scarcely any were to be seen.

At Giza, S.W. of Cairo, the daily observations were continued as mentioned above with the following results.

April.	21	22	23	24	25	26	27	28	29	30
No.	2	14	11	11	245	202	75	46	40	23
May.	1	2	3	4	5					
No.	16	13	—	0	0					

On the mornings of the 25th and 26th sixty specimens were captured at Giza. 31 of these were females and 29 males.

I dissected ten females caught on each day and in none was there any trace of eggs, but the large and swollen abdomen was completely filled by a highly developed fat body.

The specimens were all well sized and showed no signs of having been produced from starved larvæ.

In view of the undeveloped condition of the sex organs and way in which all the specimens had disappeared by the 4th of May, it is extremely improbable that any of this flight laid eggs in the Cairo district.

(See later p. 232 for record of the same flight in the Mediterranean off the coast of Egypt.)

The climatic conditions at Helwan (about 7 miles South of Maadi) during the period of migration were as follows :

APRIL	20	21	22	23	24	25	26	27	28
Max. Temp. ° C	26	29°	31	32	35	36	39	36	36
Departure	—3	0	+2	+3	+6	+7	+10	+7	+7
Min. Tem.	12	12	12	13	16	15	16	20	18
Departure	—2	—2	—2	—1	+2	+1	+2	+6	+4
Humidity 8 a.m. %	60	63	41	14	19	67	59	26	42
Mean of day	50	45	28	16	26	46	34	18	38
Departure	+9	+5	—12	—24	—14	+6	—5	—21	—1
Wind 8 a.m. :									
Direction	NE	NE	NE	NE	NE	NW	NW	NE	NNW
Force	3	2	3	6	5	2	2	4	5

It will be seen that after below-normal temperature on the 20th a hot spell started on the 22nd culminating in temperatures 7°C and 10°C (13° and 18°F) above normal on the 25th and 26th. This hot weather persisted till the 7th May by which time all the butterflies had left.

On Saturday 24th there was low pressure area over Khartoum, slight low pressure area over Cyprus, very low pressure over Gibraltar and high pressure over the North Caspian.

From the beginning of May till the middle of June *V. cardui* remained scarce and I thought that it had disappeared for the summer. However about the middle of June it reappeared in small numbers and has never been absent for more than a few days from then till the end of August. This persistance throughout this summer is quite contrary to any of my previous years experience and it would indeed be interesting to know why this year has been different from 1922, 1924 and 1925 (In 1923 I was in England). The weather in 1926 was exceptionally hot in the first week in May and the second week in June but from mid-June to the end of August has been below the average.

V. Cardui and other migratory butterflies in Mediterranean, at end of April 1926.

In the early morning of 24th April 1926 I left Marseilles for Egypt. On the night of the 24th to 25th there was a heavy storm in the Gulf of Lyons, rising almost to hurricane force near Naples.

On 26th April in calm weather ,about 200 miles

north of Cyrenaica one of the passengers said that he saw a butterfly on board about midday, and the same evening another passenger said that one was flying round a lamp in the evening.

On 27th April when about half way between Crete and the African coast — temperature about 65°F, wind light SW. to W. two *V. cardui* were on board at 8 a.m. and during the day other specimens appear to have arrived as at one time six were seen flying simultaneously on the upper deck. None were seen coming over the sea and they made no attempt to leave the ship. This was quite different from the behaviour of those that I had seen on a previous occasion flying over the sea and avoiding the steamer.

Several specimens of a Coreid Bug, *Liorhyssus hyalinus*, were also seen on board.

At 9.30 p.m. another *cardui* suddenly appeared at a light and one *Chrysopa* sp. was found on another.

During the night we gradually approached the Egyptian coast and at day break were 40-50 miles from Port-Said and about 30 miles from the coast.

At 7.30 when I came on deck numbers of insects were on board and the following were actually identified :

V. cardui	at least 15 seen and 4 captured.
Polyommatus boeticus	one.
Agrotis ypsilon	1 caught and ? one other seen.
Plusia gamma	1 seen.
Caradrina exigua	1 captured.
Deiopeia pulchella	1 captured, 1 other seen.

The low lying coast came in sight about 8.30 and we arrived Port Said about 10 a.m. with the *V. cardui* still flying round the ship.

The weather had remained fine and the wind was about N.W.

These observations are of interest for two reasons:

Firstly taken in conjunction with the record above of the migration of *V. cardui* through Cairo on 25th April, they show that this migration continued across the Delta and part at least of the swarms set out to sea on their way to Europe.

In the second place it is worthy of note that the six species found on board are without exception species which have been previously recorded on migration. Now at the time many other species of Lepidoptera were common in Egypt and if the presence of insects on board was due to accidental blowing by the wind we would have expected many other species. The presence of six species, all recorded migrants, is very strong evidence that there was some volontary action that had caused these and no others to be found out at sea.

It should also be noted that surface winds had been from the West and N. West and unless the help of an "Upper Air Current" is invoked the insects must have flown at least fifty miles against or across the wind.

Other notes on V. cardui in Mediterranean.

On 2nd May (four days after the above record) Mr. R. E. Moreau saw a painted lady butterfly several times during the morning on board a steamer between Corfu and Fairo off the Greek coast.

Mr. A. Kaiser kindly supplies the following record :

On 7th May 1926, when journeying on a steamer from Greece to Alexandria and when a little south of the island of Santorin, about 70 miles north of Crete, he saw several butterflies, apparently *Vanessa cardui*, flying from south to north. The wind was blowing strongly from the S.E. and the atmosphere was yellowish as during a khamsin [hot dust laden desert wind in Egypt]. He adds that there had been a volcanic eruption in the island of Santorin, and the weather had been excessively hot [see above for temperature in Cairo].

Mr. J.E.M. Mellor saw a butterfly "about the size of a tortoiseshell and of brownish colouration" which must have been a painted lady, when at sea half way between Gibraltar and Marseilles about midday on 28th July 1926. The butterfly came over the sea from the south and on to the top deck of the steamer.

V. cardui in Spain in 1926.

Mr. W. E. Brown who resided at Rincon de los Rios, about 20 miles from Seville from 5th May to 15th August writes as follows :

On 10th May " I've seen hundreds of painted lady butterflies."

On 14th May "The place is gradually filling up with painted ladies when only a week ago very few were to be seen."

These apparently all disappeared very suddenly, as on 13th June he writes " I have only seen one since the time I told you of them" and on 5th August "On

the 3rd of this month I saw a painted lady — the first since May."

This rapid appearance and disappearance makes it almost certain that they were passing through the district under observation.

Vanessa cardui in S. France.

Mr. O. W. Richards kindly allows me to record the following :

"Local movement of *V. cardui* at Nîmes, S. France, on 20th July 1926, bright sunny very hot day (over 70° probably 80° F in the shade) wind slight south-west.

Butterflies seen flying at the rate of 2 - 3 per minute during the course of about half an hour with the wind. This was in the public gardens surrounding the so called "Temple of Diana."

It was very noticeable how each butterfly which entered the part of the gardens in which we were sitting followed the same path as its predecessors."

I am indebted to Dr. T. G. Longstaff for the two following records :

On July 18th and 19th 1926, while ascending les Bans (12000 feet) in Central Dauphine, French Alps, he saw "hundreds of Painted Ladies flying in a westerly direction up the Pilatte glacier and over the mountains, nearly against the wind. Still numerous on the 20th, also on the 22nd, on the Chain of the Pelvoux-Vallouise. This district is between Grenoble and Briancon and 70 miles S.S.W. of Mont Blanc."

On the same day, 18th July, Colonel E. F. Norton "watched a big migration (thousands) all day

flying "S.W." in the Upper Sixt Valley, just 15 miles North of Mont Blanc, across 9000 ft range. This migration continued the same, but steadily diminishing numbers to the end of the month."

Dr. Longstaff adds "we both observed that the butterflies did not stop to rest, feed, or drink, and both were struck by their purposeful flight, each noting it and not discovering the coincidence till we met yesterday."

V. cardui in Dolomites, North East Italy.

Dr. K. Jordan, of Tring, sends me the following record :

"I was this year [1926] in the Dolomites and noticed during the middle of July that there was a migration of *Pyrameis cardui* from the South to the North. In June and early July we saw many specimens at Cortina and Misurina, but they were all in bad condition and fluttering about feeding or sunning themselves on the road .These were evidently hibernated specimens which stayed in the place. Towards the middle of the month many specimens in fine condition appeared. The weather on the whole was unfavourable, being cloudy and rainy, but there were spells of sunshine and during that time *cardui* was quite active. On 14th July at 10.30 I counted the specimens flying between myself and a tree 15 yards away. I counted 35 in 5 minutes, all going in the same direction across the valley, across the wind, up the mountain side northward. Next day the wind came from the opposite direction down the valley, but *cardui* kept on flying in the direction north, the wind

evidently having no effect on the direction of the migration. The altitude of observation was 1740 m."

V. cardui in Indian Ocean in 1926.

I am indebted to Mr. P. B. Richards, Entomologist to the United Provinces, India, for the following records :

On S.S. Elysia on a voyage from England to Bombay, one *V. cardui* was captured at light in the music saloon at 8.30 p.m. on the 29th July 1926 in the Arabian Sea in latitude 16° 23 North and longitude 61° 21 East; and a second at 9 p.m. on the 31st July when about 120 miles west of Bombay. The wind from the 27th to the 31st July was from the South West, and about 15-20 miles per hour.

The locality of the capture of the first specimen is just over half way between Aden and Bombay, and the nearest coast is that of Arabia, about 250 miles to the north-west. We have however no evidence that the insect came from here. If it was blown by the South-West wind it would have come from Sokotra or Somaliland about 500 or 650 miles away.

With regard to the second specimen, it seems more natural to suppose that it came from the mainland of India either to the East or North; otherwise it must have traversed 800 - 1200 miles of Ocean at least.

Catopsilia florella in Rhodesia.

Dr. S. A. Neave, of the Imperial Bureau of Entomology, London, kindly allows me to record that in November 1904 in the Luangwa Valley, N.E. Rhodesia, he saw about midday thousands of *Catopsilia flo-*

rella mostly resting on damp sand. The main trend of flight was doubtful but possibly N.E. to S.W. There was an enormous preponderance of males. The season was just before the break of the rains with very high mid-day temperature (reaching 110° F) and extreme dryness.

Mr. R. W. Jack, Chief Entomologist to the Government of Southern Rhodesia, kindly supplies the following further information :

"The most conspicuous species [of migrant butterfly] and the only one on which I have any notes is *Catopsilia florella*, of which the larvae feed on *Cassia* sp. They may of course have other food plants. The flights at Salisbury are usually about N.W. to S.E. or from W. to E. but a S.W. and W. direction has been reported in other parts of the colony. I have no recollection of a flight taking a direction with any northern element in it, but it would be unsafe to rely altogether on my memory in this connection.

A very big and prolonged migration took place in November - December 1922 and January 1923. My first note was made on November 11th namely "A thin flight proceeding from W. to E. : Weather generally disturbed and stormy; tremendous storms last night." The weather became more settled on November 11th but a thin flight continued for about a week. My next note on December 20th. "Thin flight from N. to S. : Weather stormy, heavy rain yesterday." The flight continued at least up to the end of December at Salisbury and was noted up to the fourth week in January in some districts. At times the insects were passing thinly but at others they were fairly dense in bunches.

I corresponded with a number of people elsewhere and ascertained that the movement extended apparently across the whole colony and had been observed in Northern Rhodesia. I could obtain no definite information from Nyasaland. The insects kept at no great distance from the ground passing between trees and other obstacles and not over them. At a rough guess I should put the speed of movement at about 10 - 15 miles per hour.

The insects do not travel with the wind. In point of fact their flight seems chiefly to occur in the thundry weather of the earlier half of the wet season and the winds are generally light between the storms.

One interesting point is that the yellow form of the Female *rhadia* Boisd. (or *rufosparsa* Auriv.) does not appear in these flights although this form is stated by Trimen to predominate in South Africa. In point of fact I have never definitely ascertained whether both sexes are represented or whether the females contain eggs or not."

Catopsilia florella in Kenya

Mr. W. S. Gray Director of the Chemical Section, Ministry of Agriculture, Egypt, resided near Kericho, 50 miles S.E. of Kisumu on the Victoria Nyanza, in the Highlands of Kenya at an altitude of 6000-8000 feet and practically under the equator (0°.23's) in 1920 and 1921.

During this time he saw several very extensive flights of pale yellowish butterflies, passing intermittently for two or three hours, not in clouds but straggling groups.

As *C. florella* is the only african *Catopsilia* and neither *Belenois mesentina* nor *severina*, the two other species recorded as migrating in Kenya, could be described as "yellowish white" the former must be the species concerned. I have shown Mr. Gray specimens of all these species and he agrees with this conclusion.

The direction of the flights was from S.E. to N.W. and they occurred during April and May (possibly also June).

Heavy rains occur in that part of Kenya in March-April-May but it is very unusual for rain to fall before midday at any time of the year. The temperature conditions during April and May are about 88°F as maximum and 48°F as minimum.

To the East the mountains reach 10000 feet and are heavily wooded, to the N. and N.E. the country is dryer, more open, undulating mountain ranges deep dongas, long grass, clumps of thorn trees (Mimosa) and no large forest areas.

At the end of December 1925 there was a migration of *C. florella* in the Nairobi district and I am indebted to Mr. T. W. Kirkpatrick for the following details :

Date : 29 December 1925.

Place : About 16 miles E.N.E. from Nairobi.

Direction of wind : N.E. moderate.

Direction of flight : Towards W. N.W. to W.

Flight first noticed about 11.0 a.m. not many; later (about 3 p.m.) he saw about 20-30 a minute flying in the same direction down an open valley between two forests. They were flying at a height of

20 - 30 feet above the ground, some lower and in small groups. The temperature at 3 p.m. was about 85° F.

On the Ist January 1926 Mr. Kirkpatrick also noticed a few migrating on the border between the forest and open plain S.W. of Nairobi, in a westerly direction with the same N.E. wind, weather warm and sunny.

Catopsilia florella in Egypt.

As recorded in Trans. Ent. Soc. London 1926 *Catopsilia florella* was seen in the Cairo District from October 1924 to 5th April 1925, but none were seen during the remainder of the year 1925.

On the 31st March 1926 Mr. A. Alfieri caught three specimens at Ougret el Sheq and on the Ist April two specimens in Wadi Talet Rashid and saw about six other specimens all flying from East to West. The day was hot.

Both localities are in the desert about 20 miles S.S.E. of Cairo. The locality had been visited several times previously during March but none had been seen.

At the end of April, on my return to Egypt I saw one or two specimens at Giza (S.W. suburb of Cairo) and from then until the end of August scarcely a week has passed without one or two specimens being seen in the latter locality.

On 14th August I found two eggs of this species on a small *Cassia* bush at Giza and between that date and the time of writing (end August) numerous eggs — larvae and pupae have been found on two or three *Cassia* bushes in the same district.

It would appear as if *C. florella*, as the result of spring immigration from the Sudan, was making a considerable effort to establish itself in this country, and if ornamental *Cassias* were planted to any conderable extent it might become a permanent resident.

Belenois mesentina in Kenya Colony, January-February 1926.

There was a very extensive migration of *B. mesentina* in Kenya colony at the end of January and beginning of February 1926.

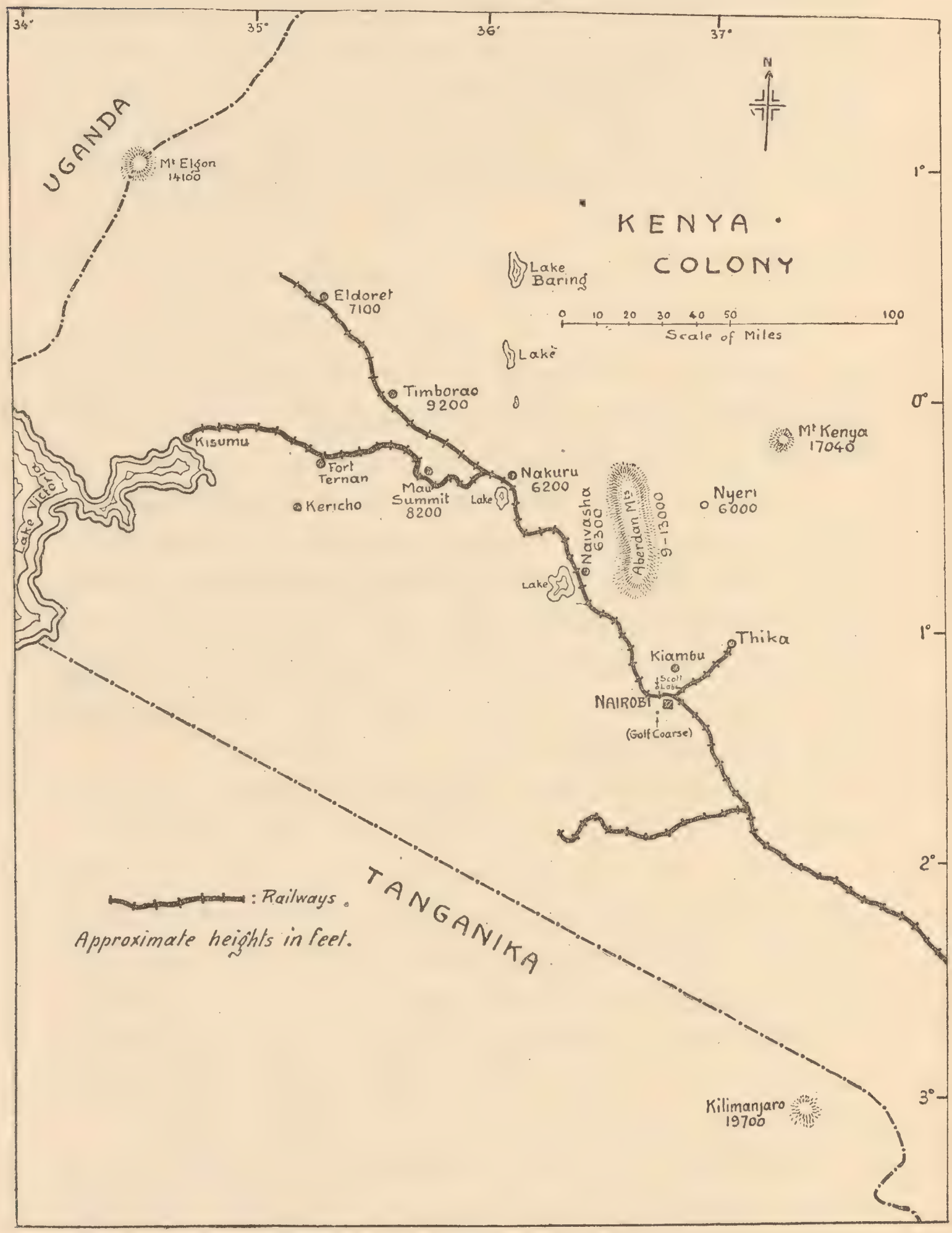
An account of it by Messrs Rogers and Van Sommerer is to be found in Proc. Ent. Soc. London 17th March 1926 but I have not seen this account. Two separate reports on the flight have been sent to me from the Nairobi district and I give them in detail below. One is from T. W. Kirkpatrick and the other from Dr. Jex Blake.

Dr. Jax Blake writes as follows (under date 27th April 1926) :

"I was at Nairobi from January 1922 to April 1925 and saw no migration at all. I have however recently seen a very extensive migration and forward you such details as I can.

The wind in this part of the colony is habitually from the N.E., more or less, most of the year. It was so during the migration.

Deloraine is Lord Frances Scotts house about 3 miles west of Rongai Railway station. Kyuna is my own [Dr. Jex Blake] house 4 1/2 miles west of Nairobi.



Map illustrating migration of
Belenois mesentina in Kenya

22nd January 1926.

By car, Nairobi to Nakuru (103 miles).

26th. Jan. 1926.

Nakuru to Deloraine (23 miles).

27th Jan. 1926.

Deloraine to Nakuru and back.

28th Jan. 1926.

Deloraine to Nakuru and back.

No excess of white butterflies seen on any of these four days. They are always a few about I fancy.

29th Jan. 1926.

Drifts of white butterflies carried by wind across the grounds at Deloraine.

30th Jan. 1926.

Deloraine to Nakuru and back. Continuous stream of white butterflies across the roads. Number estimated at from 2 to 30 looking down 70 yards of 40 ft. wide road, up to a height of 10 ft. (i.e. from 2 to 30 butterflies in a cubic space of 210 × 40 × 10 cubic ft.).

31st Jan. 1926.

Deloraine to Nairobi (126 miles).

Drifts of butterflies across the road the whole way, at times suggesting a sparse snowstorm. At times there would be from 5 to 15 in a 15 ft. cube, I estimated, where the butterflies were concentrated by the lie of the ground. There were never none of the butterflies in sight.

1st Feb. 1926.

Kyuna [4 1/2 miles west of Nairobi] to Nairobi and back. A steady flow of butterflies across the road, ceasing about 5.30 p.m.

2nd Feb. 1926.

At Kuyna : butterflies drifting across all day, at 6.30 a.m. and ceasing about 5.30 p.m. There would be from 10 to 40 at any moment on a red *Poinsettia* bush about 10 ft. high and 8 ft. across, in full flower and bract. A number were observed to come and hang about the bush; duration of stay a few seconds to 4 minutes. A few would fight with a new hatch of small blue butterflies that was out that day.

Some were observed to drift along high in the air, over the top of a native ficus tree, that is 70-80 ft. high. Many were seen to come over a row of *Grevillea robusta* trees 40-50 ft. high, while others came under or through them.

None seemed to make any effort to go against the wind, a gentle breeze.

From 4.30 p.m. onwards the butterflies seemed to come to rest in the long grass and scrub on the hill sides and ridge tops all about. One put up dozens and scores of them as one walked along; and might find 5 or 10 spaced along a twig 18 inches long, or 3 or 4 on a stout grass stem 3 ft. long.

3rd Feb. 1926.

At Kyuna : a few small drifts of butterflies only, at intervals all day long.

4th-6th Feb. 1926.

A few scattered specimens each day. Many kicked

up on walking through a patch of grass 2 ft. high.

7th Feb. 1926.

A fair number passed through the garden, particularly visiting the red Poinsettia. Very few on the adjoining yellow Poinsettia which were equally in flower and bract.

8-*10th Feb.* 1926.

A scanty but steady drift of butterflies through the garden at Kyuna; and in the afternoon between Kyuna and Kabete lying 3-4 miles to the west of it.

11th Feb. 1926.

None of the white butterflies were seen.

After this date I saw no more than the average number of these butterflies about, whether at Nairobi or Kyuna or the country side round Kyuna.''

Dr. Jex Blake kindly sent me fourteen specimens caught in his garden on 2nd February 1926. They were all *Pieris mesentina*, 9 males and 5 females, all were normal sized except one of the females which was very undersized, being only 32 mm. across the wings as compared with 42-45 mm. of the other females.

Mr. Kirkpatrick of the Department of Agriculture at Nairobi sends me an important series of notes of his own observations on the same migration, with two other records that he had sent to him in reply to a newspaper notice.

In his covering letter he says : ''The different directions of flight here (at Nairobi) and up country are

very puzzling. .....I fancy they come from the semi-desert country to the north..... The migration is said to occur every year but this one is exceptional. There has also been a rather exceptional drought in most parts of the country. The long rains of 1925 (end of March to May) were a partial failure almost everywhere. The short rains (November and early December) not very good — complete drought last half of December 1925 and January and first half of February 1926."

The following are Mr. Kirkpatrick's notes :

"(Mr. V. A. Beckley came down by car from Timboroa to Nairobi on 29.1.26, and reported that the butterflies were migrating all the way).

Nairobi, 30.1.26. Fairly numerous on golf course in afternoon, wind N.E., moderate, butterflies flying S.E.

31.1.26. Very numerous on golf course in the morning. Between 200 and 500 butterflies to every 100 yards square. Wind between 9.0 and 10.0 a.m. very light and variable, N.W. to E., the butterflies apparently going with the wind, and changing their direction with it. Later — about 11.0 a.m. wind settled to N.E., moderate, and direction of flight about S.E.

31.1.26. Afternoon, Kiambu Forest. Wind N.E. moderate, flight going S.S.E. or S.E. None near ground — owing to broken country and forest, but enormous numbers high up. Many only just visible against the sky, so there may be many more still higher.

1.2.26. Nairobi. Passing all day from about 8.0

a.m. till 5.30 p.m. At about maximum observed flight, about 15 pass per second on a front of 25 yards to a height of 10 yards (but more are flying higher). If the high-flying ones which could not be estimated are balanced against the fact that at times they were not quite so numerous, there were about 36 millions passing per day on each mile of front.

3.0 p.m., 1.2.26. Sitting in Laboratory, looking out of a window three feet square, they were passing between the window and some bushes five yards away too quickly to count, say about 500 per minute.

2-9.2.26, Nairobi. Migrating similarly every day, but in much smaller numbers 3.7 - 7.2 inclusive, very numerous again on 8.2 and 9.2. Always going between S. and S.E., wind constant N.E.

10.2 to 12.2 Nairobi — Still passing in smaller numbers and more intermittently. Wind as before, weather rather cooler and more cloudy.

No more on or after 14.2.26."

Mr. Kirkpatrick caught 173 specimens on the 1st and 2nd February. — Of these 111 (64%) were males and 62 (36%) females.

He then examined the condition of sex development of these specimens with the following result :

MALES			FEMALES		
Fat body developed	Fat body small	Fat body invisible	Ovaries with fully devloped eggs.	Ovaries with partly developed eggs.	Ovaries empty
Number: 2	7	102	52	5	5
Percent: 2 %	6 %	92 %	84 %	8 %	8%

Mr. Kirkpatrick has also sent me the following extracts from two letters received in answer to a letter in the "East African Standard" of 3rd February 1926.

(1) From Col. C. S. Stack, Mau Summit.

"Returning from Nakuru to Mau Summit on Jan. 31st I was passing through clouds of these butterflies practically all the way, they are still (Feb. 6th) passing here in reduced numbers. On Thursday Feb. 4th at 11.0 a.m. I made the following observations here two miles east of Mau Summit Station.

(1) Butterflies flying W.N.W.
(2) Wind fairly strong from E.N.E., i.e. partially across line of flight.
(3) Number estimated to pass a 25 yards front in one minute, 240. A fair average, but numbers very variable, at moments few, followed by a thick cloud."

(2) From C. Foulis, Fort Ternan.

"I observed the above butterfly migrating first on Sunday Jan. 31st, and though the numbers have decreased very considerably they are still about (Feb. 8th). The direction of the flight has been throughout S.W., though the wind has blown from every quarter during that period; winds moderate to stiff."

Mr. Kirkpatrick sends also the following table of weather conditions at Nairobi during the migration :

Weather reports, Scott Agric. Labs., Nairobi.

Date	Max.Temp. F.	Min.Temp. F.	Wind Direction at 9.0 a.m.	Cloud at 9.0 hours.	Sunshine hours.
28/1	84	55	N.E.	4	10.35
29	80	58	,,	4	9.10
30	84	55	S.E. (N.E. later)	1	?
31	84	55	?	?	11.35
1/2	84	53	N.E.	2	10.45
2	83	56	,,	4	10.40
3	82	53	,,	5	11.00
4	84	54	,,	5	11.25
5	82	56	,,	5	11.35
6	82	52	E. (almost certainly N.E. later)	1	9.00
7	80	53	N.E.	9	10.45
8	82	58	,,	6	10.10
9	82	59	,,	8	6.40
10	82	58	,,	8	8.25
11	79	60	,,	9	8.05
12	80	59	,,	9	11.00

Rain Nil for whole period

Migration of ? *Leucania loreyi* from the sea *at Alexandria in June* 1926.

Mr. A. Alfieri tells me that on 21st and 22nd June 1926, both days with hot south wind, and from 10.30 - 11 a.m. swarms of moths were seen by his brother coming in from the sea to the shore at Ramleh, just N.E. of Alexandria. They were flying low over the water and the observer says that he could catch three or four in his hand at one sweep while he was bathing. He considers that there were large species and small ones but only one specimen (a "large one") was sent for identification and found to be *Leucania loreyi*.

The same swarm was seen by another observer a few miles further N.E. at San Stephano but no specimens were brought in.

Mr. G. Stopford was in the same district from Monday 21st to Friday 25th June and travelled two or three times daily by tram between Alexandria and San Stefano. He noticed the moths in very great abundance on the 21st and 22nd flying inland from the sea against the hot land breeze. On Wednesday the wind changed to a sea breeze but the insect continued to come in, both morning and afternoon right up to the day before he left.

The moths were in thousands along the whole route and appeared to have to be all one species. He made numerous efforts to capture specimens but all flew up into the air on approaching the tram or other obstacle in their path and so kept out of reach. [This is typical of migrating insects].

Colonel Bayes reports that on the 24th June about 4 p.m. millions of small moths came ashore at Abukir, about 20 kilometres N.E. of Alexandria. They were seen coming in from the N.W. over the water. He thinks there were more than one species. This must have been part of the same movement.

The insects were also noticed about 11 a.m. on the 21st June by an observer on an upper floor in the Customs offices in Alexandria. The numbers were so remarkable that he opened the windows hoping that some would come in but unfortunately none did.

It is most unfortunate that with all this informations about this remarkable flight only a single specimen was identified.

Leucania loreyi is a very widely distributed insects occurring in Europe, Asia, Africa and Australia. In Egypt it is occasionally a pest of maize or sugar cane. In this country however it appears from records to be commonest from March to July and very rare, if not absent, for the rest of the summer.

It is difficult to reconcile this with any idea of a large immigration of this species at the end of June and if *Leucania loreyi* was a dominant insect in the flight it may be that the flight was not a true immigration but that it was passing along the coast in a more or less easterly direction from the coast cultivation west of Alexandria.

The weather conditions in Alexandria during the period were as follows :

July	18	19	20	21	22	23	24	25	26
Max. Tem. °C	27	27	29	34	39	30	28	29	28
Depart	— 1	— 1	+ 1	+ 6	+11	+ 2	0	+ 1	0
Min. Tem.	20	20	20	20	22	24	21	21	22
Depart	— 1	— 1	— 1	— 1	+ 1	+ 3	— 1	— 1	0
Humidity Mean	69	69	75	55	39	77	66	73	79
Depart	— 3	— 3	+ 3	—18	—34	+ 4	— 7	0	+ 4
Wind Force	1	1	1	1	1	2	1	1	0
Direction	N	NW	E	SE	SE	N	NNE	NW	—

It will be seen that the flight coincided with a change of the wind to the south and a sudden increase of maximum temperature up to 11°C (20°F) above normal.

The temperature was also 10°C above normal on

the 22nd at Merza Matruh on the coast about 150 miles west of Alexandria.

Agrotis ypsilon in Egypt.

In Trans. Ent. Soc. London 1925 p. 450 and 1926 p. ? (in the press) I gave some of the evidence that led us to conclude that *A. ypsilon* is a migrant and that the majority of insects leave this country in the spring in mass flights to some unknown destination.

A close investigation of this insect has been made during the past year and full details will be published elsewhere. It might be interesting to note however that we find no evidence of the survival of the insect during the summer in Egypt south of Cairo, but that in the Delta, particularly near the coast, the species remains the whole year round but in much reduced numbers during the summer.

In the Cairo district there are three broods during the winter, and a most interesting point is that in the third brood of adults, about March or April, which is the one on which migration takes place, the females hatch from the pupæ and remain for some considerable time sexually immature and with a very greatly developed fat body. On the other hand, specimens of the earlier broods captured in traps show the majority of females with developed eggs. It is presumably in this sexually immature stages that migration takes place.

The note on p. 233 of the capture of this species in the Mediterranean is the first direct evidence of the possibility that they cross over to Europe.

Swarming of Coccinellidæ

From time to time records appear of the swarming together of countless thousands of Lady-Bird beetles in different parts of the world. In some cases, as in California, this appears to be connected with hibernation but in other cases no explanation has yet been offered. The following notes on cases that have been reported to me in Egypt may provide a little more data on which to base theories in the future.

(1) Major Borman, Director of the Zoological Gardens, Cairo, reports that on 6th April 1926 he found the small island of "Um el Kagamai", in the Gulf of Suez off the Egyptian Coast near Zeitir, swarming with small beetles of which a sample proved to be *Coccinella* 11-*punctata*. They were in countless thousands on the bare sand and could have been collected by handfulls. They were also seen on the neighbouring islands. Major Borman notes that there was no visible food for them on the island.

(2) Mr. J. W. Williamson states that one day in the first half of March 1913 he pitched his tent in the Wady Helal, about 8 miles from the Nile, south east of Mahamid Station on the Luxor to Assuan line. On returning from lunch they found countless thousands of lady birds — of a bright sealing-wax red colour with black spots — all over the tents in such numbers that the tent ropes appeared three or four times their normal thickness owing to the masses of beetles settled on them. The next day there was not one to be seen anywhere about.

(3) Mr. O. H. Little of the Geological Survey of Egypt gives the following notes :

"1913 March 29. Camped at Wady Bedia (Jemsa-Qena Road) to visit Porphyry Quarreis on Gebel Dokhan. Lady birds (yellow) numerous during the following days until April 2nd, on plain of Nageteir I ascended a low mound of Nubian sandstone and found the rocks on the top yellow with lady birds and in half a minute they were all over me, 20-30 on my face at a time. When I left the mound I rode without stopping for ten miles and all the time was busy shaking them off.

(4) Mr. Little also reports as follows :

"1923 March 18. Left Qena for Safaga and camped 25 kilmoetres from Qena in Wady Um Sellimat. Lady bird plentiful during the day and in the tent at night until I went to bed. I did not make a note of their presence next morning, so presume they were not numerous; nor did I record their colour but am almost certain they were yellow as I have no recollection of seeing a large number of red lady birds anywhere in the Eastern desert."

(5) Mr. George Costanzo tells me that some time about the beginning of July 1926 red lady bird beetles were washed ashore in countless thousands at one spot a few kilometres N.E. of Alexandria.

Sur l'*Adesmia metallica* Klug (Col.-Ténébrion.) et ses variétés

par Adolf Andres, Caire.

Dans les « Symbolae Physicae » de Hemprich et Ehrenberg (1), Klug décrit et figure cette *Adesmia* sous le nom de *Pimelia metallica*. Cette espèce à tibias comprimés, tranchants sur le côté externe et en lame de couteau, appartient au sous-genre *Oteroscelis* dont le principal caractère réside en cette forme de tibias.

Si on se conforme au tableau dichotomique établi par Reitter (2), *A. metallica* doit figurer parmi les espèces dont la seconde côte dorsale est placée plus près du bord et est toujours distincte; tandis que la première côte se trouve au milieu de l'espace compris entre la seconde et la suture. Cette première côte est tantôt bien apparente, tantôt obsolète. L'*A. metallica* fait partie du groupe dont le corps ovale offre sa plus grande largeur au milieu de la longueur des élytres ou à peu près; tandis que dans un autre groupe qui comprend les espèces égyptiennes *cothurnata* et *bicarinata* Klug les élytres sont élargis en arrière. Allard dans sa « Monographie des Adesmides » (3) mentionne cette espèce et dit qu'el-

(1) Symbolae Physicae, seu Icones et descriptiones corporum naturalium novarum aut minus cognitorum quae ex itineribus Lybiam, Aegyptum, Nubiam, Dongolam, etc., etc., Berlin, 1828.

(2) Bestimmungstabellen, *Adesmia*, p. 5, 1916.

(3) Ann. Soc. Ent. Fr., V, 1885.

le se distingue de *Faremonti* Luc., d'Algérie, par sa couleur cuivrée et par une seule rangée de gros tubercules dans les intervalles des côtes. Boehm dans son étude sur les Adesmides des déserts égyptiens (1) mentionne deux espèces de ce groupe : *O. metallica* Klug et *O. Andresi* sp.nov. et distingue la première par sa couleur métallique et sa première côte très accusée. Toutefois si on compare ces deux espèces par une grande série d'exemplaires, on constate qu'il est impossible de les séparer, car on observe toutes les transitions de l'une à l'autre. On trouve des spécimens à reflet métallique qui ont la première côte oblitérée, aussi bien qu'à première côte bien accusée; et les tubercules sont tantôt bien prononcés et placés sur une seule rangée; tantôt peu apparents et placés plus ou moins régulièrement et sans ordre ou forment quelquefois des lignes ridées. Au reste Boehm a aboli plus tard sa nouvelle espèce *O. Andresi*, après qu'il l'eût comparée aux espèces de la collection du Natur. Hist. Museum de Vienne et il l'identifia à *O. Faremonti* Luc., d'Algérie.

Reitter (2) mentionne *O. metallica* et deux variétés : *Chakouri* (3) et *Andresi*. Cette première variété offre une côte dorsale interne très prononcée, de gros tubercules sur un seul rang et des reflets métalliques; la seconde variété, par contre, a la côte in-

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(1) Bull. Soc. Ent. d'Egypte, 1908, p. 133.

(2) Loc. cit., p. 10.

(3) Le nom de *Hakouri* est incorrect. C'est de notre collègue M. Edgard Chakour du Caire que Reitter avait reçu l'espèce en question.

terne oblitérée, les tubercules irréguliers et nombreux, et n'offre pas de reflets métalliques.

Ainsi que je l'ai mentionné plus haut il existe entre ces deux formes extrèmes toute une série de formes intermédiaires; il paraît donc logique de réunir toutes ces formes sous le nom spécifique de *metallica*. Cette espèce se rencontre en Egypte depuis Solloum jusqu'à Aboukir, ainsi que dans la presqu'île du Sinaï sous toutes les formes décrites. On peut seulement ajouter que la var. *Chakouri* est plus fréquente à Aboukir; tandis que la var. *Andresi* est plus commune dans le Mariout. Il est intéressant de mentionner ici que *O. metallica* a été également recueillie dans la Nubie égyptienne à El Deir par Madame Lacau le 5 Mai 1923 (voir coll. Alfieri); cette observation est d'autant plus intéressante si on considère que cette espèce manque dans tout le Delta et dans la Haute-Egypte. Sa présence en Nubie est donc remarquable.

Si nous observons maintenant la distribution géographique du groupe *metallica* dans les pays voisins, nous trouvons l'espèce *Faremonti* décrite par Lucas et provenant de Biskra en Algérie (1).

Allard dans sa Monographie distingue *Faremonti* de *metallica* par sa couleur noire et par ses tubercules nombreux et réunis fréquemment, et Reitter dit en outre dans ses « Bestimmungstabellen » que les tibias postérieurs de *Faremonti* sont presque aussi larges que les fémurs, tandis que chez *metallica* ils sont de moitié moins larges.

Or, en comparant une grande série d'exemplaires

(1) Rev. Zool. de la Soc. Cuv., 1844, p. 264.

provenant d'Algérie, de Tunisie, de Tripolitaine et de la Cyrénaïque je n'ai pu constater que ces caractères distinguent *Faremonti* de *metallica*.

Les spécimens d'Egypte aussi bien que ceux d'Algérie, etc., etc., peuvent présenter des reflets métalliques et leurs tubercules rangés sur une seule ligne (*Chakouri*), ou être nombreux et irrégulièrement disposés. Relativement à la largeur des tibias postérieurs il m'est impossible de trouver quelque différence entre les exemplaires d'Algérie et ceux d'Egypte.

Je considère donc qu'il y a lieu de réunir ces deux espèces sous le nom spécifique de *metallica* Klug qui a la priorité et de supprimer celui de *Faremonti* Luc., on peut conserver ce dernier nom pour désigner une race géographique de la *metallica* d'Algérie, le nom de *Chakouri* Rttr comme sous-espèce pour les spécimens à deux côtes bien apparentes et qui offrent des reflets métalliques et celui d'*Andresi* Boehm pour les exemplaires à côte interne oblitérée et qui offrent une couleur noire.

Quant à la distribution du groupe *metallica* vers l'Est de l'Egypte, c'est-à-dire en Palestine et en Syrie, nous pouvons faire les remarques suivantes :

La *metallica* de la Syrie a été décrite par Baudi (1) sous le nom de *metallica* var. *syriaca*. Cette description n'offre pas de caractères bien distincts qui permettent de séparer cette variété de la *metallica* type. En effet, tous les spécimens en ma possession et que je dois à l'amabilité du Dr. Bodenheimer, ne se dis-

(1) Baudi, Catalogi dei Tenebrionidi, Museo Civico di Genova, 1874.

tinguent pas des exemplaires égyptiens, tout au moins en ce qui concerne les tubercules et la côte interne, qui sont fort variables comme dans les spécimens égyptiens. Un seul caractère pourtant suffit à distinguer l'espèce syrienne de l'espèce égyptienne et de l'Algérienne; il consiste dans la largeur des tibias postérieurs qui égale cette des fémurs. Le cotype de *syriaca* Baudi dont je suis redevable à la courtoisie du Dr. Gridelli du Museo Civico de Gênes présente le même caractère sous ce rapport. Il m'a semblé en outre que les sujets provenant de la Palestine étaient en général plus grands que ceux de l'Egypte.

D'autre part Reitter décrit dans le Bestimmungstabellen (1) sous le nom de *carmelitana* et var. *fortesculptata* une forme de la Palestine et de la Mésopotamie qu'il m'est impossible de distraire de la *syriaca*. Il est vrai que Reitter ne dit rien des tibias postérieurs; il compare simplement cette forme à la *Faremonti* et la distingue de cette dernière par la forme de ses élytres, un peu plus larges après le milieu, et son corps moins aplati. Ce sont là des caractères peu constants et je pense que l'espèce de Reitter est identique à *syriaca*. Par contre la largeur des tibias postérieurs de la race syrienne est un caractère assez important pour permettre de la séparer de la race africaine et je proposerai de conserver cette première espèce sous le nom de *syriaca* Baudi, qui a la priorité.

En résumé le groupe *metallica* devrait être réparti sur deux espèces :

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(1) Loc. cit., *Adesmia*, p. 8.

O. metallica Klug, de l'Algérie et de tout le long du littoral méditerranéen jusqu'au Sinaï et en Nubie égyptienne (El-Deir) avec deux sous espèces : *Chakouri* Reitter et *Andresi* Boehm; et une race géographique : *Faremonti* Luc., de l'Algérie.

O. syriaca Baudi, de la Palestine, de la Syrie et de la Mésopotamie, ayant pour synonymes : *carmelitana* Reitter et var. *fortesculptata* Reitter.

Un nouveau Curculionide d'Egypte

par A. Hustache.

Hypurus portulacae n.sp.

Forme de *H. Bertrandi* Perris, dont il diffère seulement par les caractères suivants : Taille moitié aussi forte; coloration générale plus claire; revêtement des élytres formé en partie de très courtes soies squamuleuses soulevées, alignées et noires; front plus déprimé, les yeux plus convexes; prothorax un peu plus convexe dans le milieu, son bord antérieur un peu plus relevé; corbeilles tarsales postérieures à soies noires; tarses plus courts, le deuxième article des postérieurs épais et à peine aussi long que large.

Egypte, obtenu de cécidies de *Portulaca oleracea* (A. Alfieri).

Séance du 15 Décembre 1926

Présidence de S.E. le Dr. Mohamed Shahine Pacha

Nominations :

Messieurs Ahmed Mourad El Bakri et Mahmoud Housny, du Caire, présentés par Messieurs C. B. Williams et Anastase Alfieri, sont nommés membres titulaires.

Communications

A Coccid new to science from Mecca and two records from Arabia.

by W. J. Hall, A.R.C.Sc., F. E. S.,
Senior Entomologist, Ministry of Agriculture, Cairo.

The material dealt with in the present note was collected by Mohd. Taha during a pilgrimage to Mecca in the summer of 1926.

1. TARGIONIA MECCAE SP. NOV.

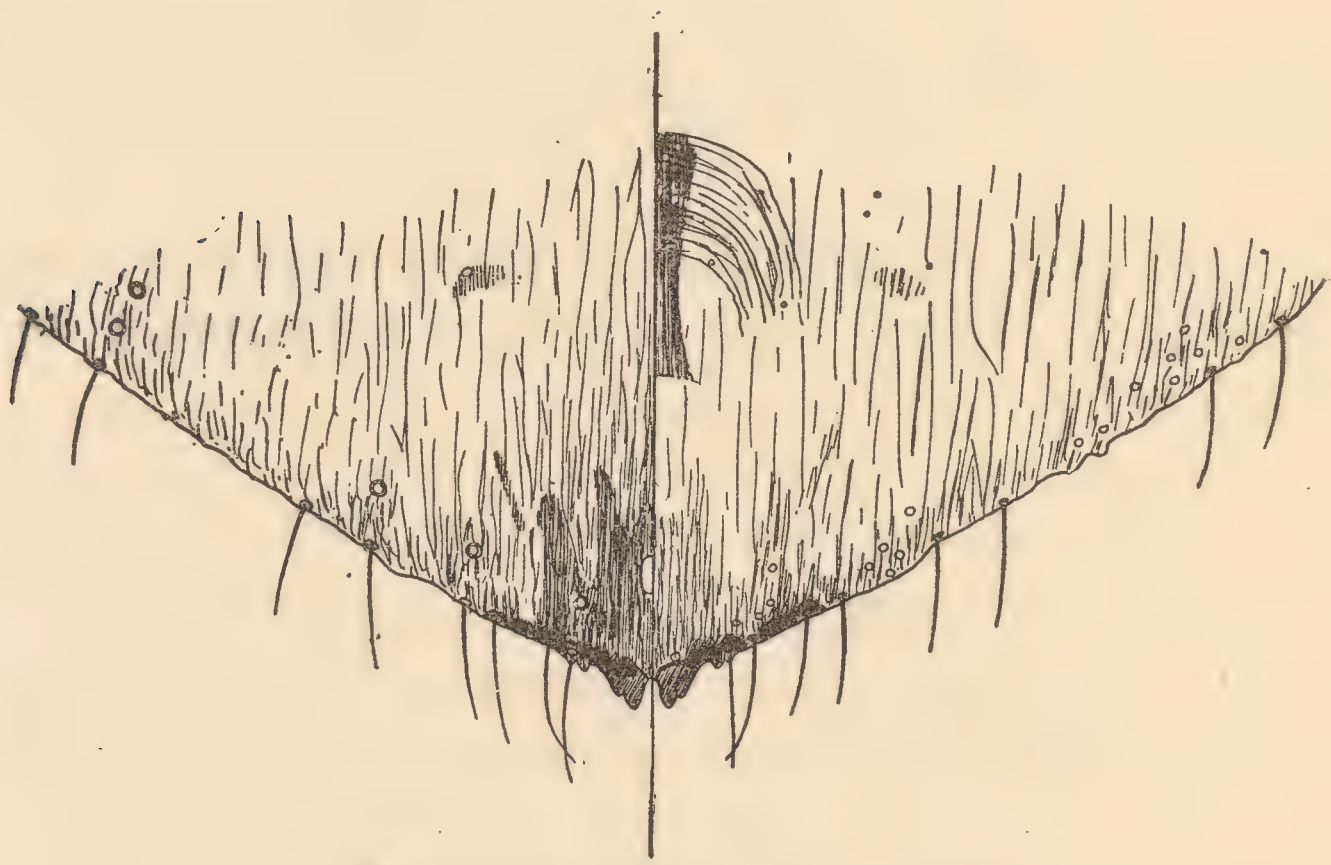
Scale of adult female approximately circular, convex and dirty white in colour. This colour is that of a thin covering of secretionary matter which is easily knocked off revealing the shiny brown, almost reddish brown, puparium beneath. First pelli-

cle more or less central and yellow in colour. Second pellicle very large occupying practically the whole puparium, shiny brown or reddish brown. The submarginal region of the 2nd pellicle is thrown into a series of regular folds running at right angles to the margin and giving to it a crinkled appearance.

Ventral scale, except at the margin, remaining attached to the hostplant on lifting back the dorsal scale.

Diameter of scale of adult female 1 millimetre.

Adult female usually kidney shaped owing to the compression of the free abdominal segments and the retracted nature of the pygidium. Antennae reduced to minute tubercles carrying one stout curved bristle. Rostral loop very short. Anterior spiracles with 1-3 parastigmatic glands of a size rather smaller than usual. Pygidium roughly triangular with two pairs



Targionia meccae sp. nov. :
Pygidium of adult female ×250.

of lobes, median pair duplex with the inner lobe projecting beyond the outer lobe. Lateral lobes of similar form to the median pair but much smaller. Marginal hairs to the pygidium unusually long and conspicuous. Squames and circumgenital glands wanting. Ventral pores of the type usually found in the genus TARGONIA but not very numerous and confined to the neighbourhood of the margin. Dorsal dermis with three pores of larger size situated just within the margin behind the Ist, 4th and 5th setae on either side. Anal orifice small and situated far from the base of the pygidium. Margin of free abdominal segments with a few pores of a type similar to those found on the ventral dermis of the pygidium.

HOST PLANT.

Rhamnaceae *Zizyphus* sp.

PART OF PLANT ATTACKED.

Chiefly the small branches.

REMARKS.

Collected on the 10th July 1926 at Mecca. A well marked TARGIONIA unilke any other species of the genus known to me.

2. PARLATORIA BLANCHARDII TARG.

This very common Egyptian species was taken on Date Palm (*Phœnix dactylifera*) at Medina in July 1926.

3. LECANIODIASPIS AFRICANA NEWST.

Taken on an unknown plant at Medina in July 1926. So far as I know this is the first time this species has been collected outside Egypt. In this country it has been collected on *Acacia arabica* VAR *nilotica*, *A. tortilis*, *Casuarina* SP. *Zizyphus spina Christi*, *Psidium guayava*, *Ficus carica*, *F. infectoria*, *Salix* SP. and *Lawsonia inermis*.

Miscellaneous notes on Egyptian Coccidae with descriptions of three new species.

by W. J. Hall, A.R.C.Sc., F.E.S.,
Senior Entomologist, Ministry of Agriculture, Cairo.

Owing to my approaching departure from Egypt I have written the present paper to deal with the new species collected since the last bulletin on the subject was sent to the press. With the miscellaneous notes that are added all the work on this family up to the date of leaving the country will then have been published. The total number of species that have been recorded is 127.

I should like to take this opportunity of pointing out that the Coccid fauna of Egypt is by no means worked out and there still remains a wide field for future workers. I trust that someone will be sufficiently interested to take up the work and carry it on. I would particularly recommend a study of the desert fauna which I am quite certain would produce very many more species than have already been found.

The economic importance of the Coccidae cannot be overestimated; it is probably the most important family from the point of view of the economic entomologist. One particularly important aspect of the work is the detection and recognition of non Egyptian species on plants and plant produce imported into the country. Timely intervention in such cases may save the country an incalculable amount. The

study of the COCCIDAE is a systematic one of great importance to the economic welfare of the country and should on no account be neglected.

126. PHENACOCCUS GYPSOPHILAE SP. NOV.

Adult female oval in shape with 9 segmented antennae, the 9th segment being the longest with the 2nd and 3rd subequal and only a little shorter, the 1st and 8th are again subequal and slightly shorter whilst the 4th, 5th, 6th and 7th are subequal and the shortest. Of these the 4th is sometimes slightly shorter and the 5th slightly longer than the others.

Limbs well developed, femora and tibiae of hind pair subequal with the tarsi 3/5 the length of the tibiae. Translucent pores wanting. Claw with a minute denticle on its inner surface. Tarsal digitules very fine short and simple; ungual digitules stouter, minutely knobbed and extending just beyond the apex of the claw.

Rostral loop not quite extending to the line of insertion of the median pair of limbs. Anterior and posterior osteoles present the former being rather obscure. Eyes prominent.

Cells of the anal ring not contiguous, the same is also true of the minute setiferous pores of the outer ring. Anal setae rather more than 1/2 the length of the caudal setae. The caudal setae are associated each with a seta about 2/5 their length.

Cerarii poorly developed. The anal pair consists of two slender spines with three or four obscurely trilocular pores near the base — not sufficient to

make an apparent group. The cerarii of the penultimate segment consist of two smaller spines associated with usually two trilocular pores. On the remaining abdominal segments the cerarii are represented by one or two even smaller spines usually with not more than one trilocular pore at the base. These cerarii are extremely difficult to make out as spines of a similar nature are found scattered over the dorsal dermis.

Ventral dermis with a few scattered setae of varying lengths, large ring shaped pores more or less confined to the posterior abdominal segments and a few scattered minute obscurely trilocular pores. Dorsal dermis with scattered minute spines, obscurely trilocular pores and a few large ring shaped pores again on the posterior abdominal segments.

Length of adult female 1.75 - 2.25 mm. Breadth 1.2 - 1.5 mm.

Host Plant.

Caryophyllaceae *Gypsophila rokejeka.*

Part of Plant attacked.

The roots.

Remarks.

Collected in the desert near Khanka on the 24th February 1926 by Mohd. Taha. Unfortunately the record of the characters of the living insect has been mislaid. This species can be readily separated from the other representatives of the genus Phenacoccus known in Egypt.

I am indebted to Mr. N. D. Simpson, Botanist

to the Irrigation Department of the Ministry of Public Works for identifying the host plant.

127. PHENACOCCUS HIRSUTUS GREEN VAR. CRESSAE VAR. NOV.

* BIBLIOGRAPHY :

Phen. hirsutus GREEN, Mem. Dept. Agric. India, II, 2, p. 25, (1908).

Adult female in the living state indistinguishable from *Phen. hirsutus* GREEN.

This variety may be distinguished from typical *hirsutus* under the microscope by

1. The antennae may be either 8 or 9 segmented. In most examples the antennae are 8 segmented but in many cases the terminal segment shows partial division. In a few examples the division was complete giving a 9 segmented antenna indistinguishable from that of *hirsutus*.

2. The coxae of the hind pair of limbs carry many minute translucent pores. There are no translucent pores at the distal extremity of the tibiae as in *hirsutus*.

3. The tarsal digitules are of unequal length; one being markedly longer and stouter than the other.

4. There is a distinct though small group of minute obscurely trilocular pores at the base of the

(*) Only the reference to the original description is given. It is unnecessary to quote here the numerous references to this species in the Egyptian literature.

spines of the anal cerarii and the tissues immediately surrounding the base of the spines show faint signs of chitinization.

5. The body setae appear to be smaller and less numerous than in *hirsutus*.

In other respects the VAR. *cressae* agrees with *Phen. hirsutus* GREEN.

HOST PLANT.

Convolvulaceae *Cressa cretica*.

PART OF PLANT ATTACKED.

Just above ground.

REMARKS.

Collected in the desert near Khanka by Mohd. Taha on the 22nd April 1926. A rather obscure species distinct from, but apparently closely allied to, *Phen. hirsutus* GREEN.

128. TRIONYMUS EUPHORBIAE SP. NOV.

Adult female oval or elongate oval a dull grey green in colour with brown legs and antennae; some specimens are a darkish grey with only the slightest touch of green. Secretionary covering sparse, segmentation distinct. Four short caudal filaments present — two on either side of the anal orifice.

Before beginning to lay eggs the female encloses herself in a white sack of matted fibres. The eggs are laid within this sack in a loose mesh of fibres the female gradually decreasing in size as the eggs are laid.

Eggs brownish.

Larvae pale green with a tinge of yellow or brown.

The ovisac is elongate oval in shape with a small orifice at the anterior end and is situated between the short fleshy leaves and the stem. The plant had a type of growth superficially resembling ARAUCARIA and the general appearance of the scale on the plant is reminiscent of *Eriococcus araucariae* MASK.

Length of adult female 2.25 - 2.75 mm. Breadth 1.25 - 1.6 mm.

Antennae of adult female 8 segmented the terminal segment being the longest with the Ist and 2nd subequal and next longest, the 3rd is only slightly shorter than the 2nd whilst the 4th, 5th, 6th and 7th are subequal and the shortest. In some examples the 4th and 6th are slightly shorter than the other two. The hairs on the segments rather longer than usual.

Limbs well developed, the tibiae of the hind pair slightly longer than the femora and the tarsi rather less than 1/2 the length of the tibiae. Translucent pores wanting. Tarsal digitules of unequal length one being longer and stouter than the other; ungual digitules minutely knobbed and extending to just beyond the apex of the claw. Hairs on the femora rather stouter and on the tibia rather longer than usual.

Rostral loop not quite extending to the median coxae. Anterior and posterior osteoles present.

Anal ring normal. Anal setae the same length as, or rather shorter than, the caudal setae.

Cerarii confined to the four posterior abdomi-

nal segments. Anal cerarii consisting of two spines and a stout seta surrounded at the base by a small group of minute obscurely trilocular pores. There is a well defined chitinized area surrounding the base of these spines. The spines in the anterior cerarii are successively slightly smaller with a smaller group of minute trilocular pores at their bases and no circumscribed chitinized area.

Both ventral and dorsal dermis with conspicuous tubular pores with ring shaped orifices and minute obscurely trilocular pores; the former are more numerous on the ventral dermis and the latter on the dorsal dermis.

The dermis is moderately hairy.

Host Plant.

Euphorbiaceae *Euphorbia* sp.

Part of Plant attacked.

Aerial between the small leaves and the parent stem.

Remarks.

Collected at Sollum the north westerly frontier town of Egypt by Kasem Eff. Mohd. on the 24th August 1926.

The characters of this species are such that it can be readily separated from allied Egyptian species. It is curious that it should show tarsal digitules of unequal length as in the case of *Phen. hirsutus* var. *cressae*. I do not remember to have seen this characteristic before.

The habits and characteristics of the living insect

are not typical of the genus TRIONYMUS but the microscopic characters clearly place it in this genus.

129. CHRYSOMPHALUS PERSONATUS COMST.

BIBLIOGRAPHY :

Comstock, Second Report p. 66, (1883).
Newstead, Mon. of Brit. Cocc. Vol. 1, p. 83, (1901).

Egyptian examples appear to be quite typical of this characteristic species. The following is an extract from Newstead's description (*l.c.*).

« Puparium of the female obconical or thimble shaped, the height almost equalling the greatest diameter, surface roughly and irregularly laminate but shining usually tilted to one side. Colour black, blackish brown, piceous or sometimes smoky grey; laminae grey or white; denuded examples more polished than those with the laminae perfect. Exuviae, at the highest part of the puparium, dull red, secretionary coverings black, the extent of each indicated by white concentric rings, and there is usually a central boss or nipple.

Ventral scale about half the greatest diameter of the whole ventral surface; unicolorous pale brown. The remainder of the ventral scale consists of a broad, thick flange, which is undoubtedly a continuation of the upper part of the puparium. A very thin secretion generally remains attached to the plant which is ochreous, with two small dark concentric rings followed by others of pale blue and dark brown. Tissues of the leaf immediately surrounding these dull orange ..... ».

The colour of Egyptian examples is uniformly black.

Diameter of scale of adult female 0.75 - 1 mm.

HOST PLANT.

Palmae *Latania* sp.

PART OF PLANT ATTACKED.

The fronds.

REMARKS.

Collected at Alexandria in August 1926.

MISCELLANEOUS NOTES ON PREVIOUSLY RECORDED SPECIES.

41. AULACASPIS CINNAMOMI VAR. MANGIFERAE NEWST.

BIBLIOGRAPHY :

Newstead, Bull. Ent. Res. Vol. II, p. 86, (1911).
Hall, Min. of Agric. Bull. No. 22, p. 34, (1922).
Hall, Min. of Agric. Bull. No. 36, p. 47 (1923).

This species presents an interesting case. It has been recorded by Willcocks (Sult. Agric. Soc. Bull. No. 1, p. 209, 1922) that it was introduced into Egypt on seedling mangoes imported from India. The original material from which the species was described was collected at Giza on the 31st August 1910 on small mango trees imported from Ceylon.

The only material of this species in the collections of the Ministry was a very few specimens labelled « Mango, Ismail Bey Shaker's garden at Helwan August 1918 ».

In the 7 years that I have been collecting Coccidae in Egypt I must have examined hundreds of mango trees in various parts of the country without ever coming across this species. About the middle of August 1926 some very heavily infected material was sent in from Matai (Minia Province) from a garden belonging to Ismail Bey Shaker the same owner in whose garden it had been found at Helwan 8 years previously. In the Matai garden 70 large mango trees out of 170 were heavily infected.

The mango is a valuable tree probably worth anything from £ 50 to £ 100 so the problem is a serious one. There are a large number of mango trees in Egypt producing a valuable crop and if this pest becomes generally established it may cause considerable loss to cultivators. The obvious remedy is to eradicate the infected trees without delay but whether this can be done in view of the value of the trees remains to be seen. The pest might possibly be kept down by fumigation or spraying but it is unlikely that it would be exterminated and in a case like this, where the future of the mango crop is at stake, drastic measures are called for. Before any such measures are adopted first a systematic examination of the mango gardens should be undertaken at once to ascertain whether the infection is confined to this garden and the one at Matai. Secondly so far as possible all the mango trees emanating from both gardens for as many years back as possible should be traced. Thirdly investigation is required to ascertain if the mango is the sole host plant.

A reinspection of Ismail Bey Shaker's garden at

Helwan resulted in 3 seedling mangoes being found infected. At present there are only a few seedling trees in this garden. The Matai garden was, I understand, stocked from Helwan.

70. CERONEMA AFRICANA MACFIE.

BIBLIOGRAPHY :

Macfie, Bull. Ent. Res. Vol. IV, p. 31, (1913).

Hall, Min. Agric. Bull. No. 36, p. 13, (1923) under *C. acaciae*.

Hall, Min. Agric. Bull. No. 64, p. 21, (1925).

This species has only been collected twice in Egypt and in both cases the material was very poor and heavily parasitized. On the 24th August 1926 some excellent material was obtained from Kom Ombo, Upper Egypt, where it was said to be causing damage to the Sunt trees (*Acacia arabica* VAR. *nilotica*).

85. PINNASPIS ZILLAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 36, p. 27, (1923).

Hall, Min. of Agric. Bull. No. 64, p. 22, (1925).

Hall, Min. of Agric. Bull. No. 72, p. 32, (1926).

An additional host plant for this species is *Citrullus colycynthis* (CUCURBITACEAE) on which it was collected in Wadi Digla by Hassan Bey Efflatoun on the 11th July 1926.

108. PHENACOCCUS ZILLAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 5, (1926).

This species was collected on an unknown desert plant at Sollum the north western frontier town of Egypt on the 24th August 1926 by Kasem Eff. Mohd. The original material was collected at Fayed near Suez on *Zilla spinosa* so it must be a widely distributed desert species.

109. PSEUDOCOCCUS ALHAGII HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 7, (1926).

An additional host plant for this species is the Composite *Artemisia judaica* (roots) collected in Wadi Araba on the 3rd March 1926. The original material was collected in the vicinity of Cairo some 100 miles away.

121. COCCOMYTILUS FARSETIAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 23. (1926).

This species was collected on *Pithyranthus tortuosus* (UMBELLIFERAE) between the 6th and 7th Towers on the Suez Road on the 6th July 1926. The original material was taken on *Farsetia aegyptiaca* in the desert near Masara so it is probable that it is a widely distributed desert species.

122. COCCOMYTILUS RETAMAE HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 24. (1926).

A new locality for this species is between the 6th and 7th Towers on the Suez Road where it was found

on *Retama raetam* on the 6th July 1926. This species is already known to be widely distributed in the desert and to occur in Palestine.

125. TARGIONIA HALOXYLONI HALL.

BIBLIOGRAPHY :

Hall, Min. of Agric. Bull. No. 72, p. 27, (1926).

The original material of this species was collected in the wadis east of Beni Suef. It has since been taken on the same host plant — *Haloxylon schweinfurthii* — on the 7th July 1926 between the 6th and 7th Towers on the Suez Road which must be about 150 miles from the localities where it was originally found.

Note on the « MANNA » of the Old Testament.

The question of "Manna" has interested me very much since I have been in Egypt. Recently I received some specimens of *Trabutina elastica* MARCHAL on *Tamarix* SP. from Mr. Balachowsky collected in Algeria. I was struck with the similarity between this insect and *Coccus manniparus* EHR (the "Manna insect") as figured by Ehrenberg (Sym. Phys. 1829). I have not yet had the opportunity of comparing *T. elastica* with Ehrenberg's original description of *C. manniparus* but it seems likely that the latter is really a TRABUTINA and might conceivably prove to be the same as *T. elastica*. Unfortunately I understand that Ehrenberg's type consists only of twigs of TAMARIX — all the insect specimens have

disappeared — so the matter must be largely one of surmise.

Mr. Alfred Kaiser who has spent many years in Sinai and has made a special study of "manna" informs me that he has never observed any insect associated with it or that he has suspected of being in any way connected with its production. He also tells me that "manna" is not confined to TAMARIX but is found on HALOXYLON and other plants bearing no botanical relationship to TAMARIX.

This makes one suspect that "manna" or manna production is not the work of a Coccid at all. It seems quite conceivable that *Coccus manniparus* EHR. may have been collected on a tree on which "manna" was present without there being any connection between the two.

Mr. Kaiser has recently left for Sinai and he has promised to send me some "manna" for examination and to make a special search for any insect associated with it. I hope that this will furnish some further information on the subject.

I should like to take this opportunity of acknowledging the encouragement and invaluable assistance I have received from Mr. E. E. Green throughout my work on the COCCIDAE of Egypt.

PLATES

1 - 3

EXPLANATION OF PLATE I.

Phenacoccus gypsophilae SP. NOV.

Fig. 1. Adult female ×30.

» 2. Antenna of adult female ×250.

» 3. Hind limb of adult female ×250.

» 4. Posterior extremity of abdomen of adult female ×250.

PLATE 1.

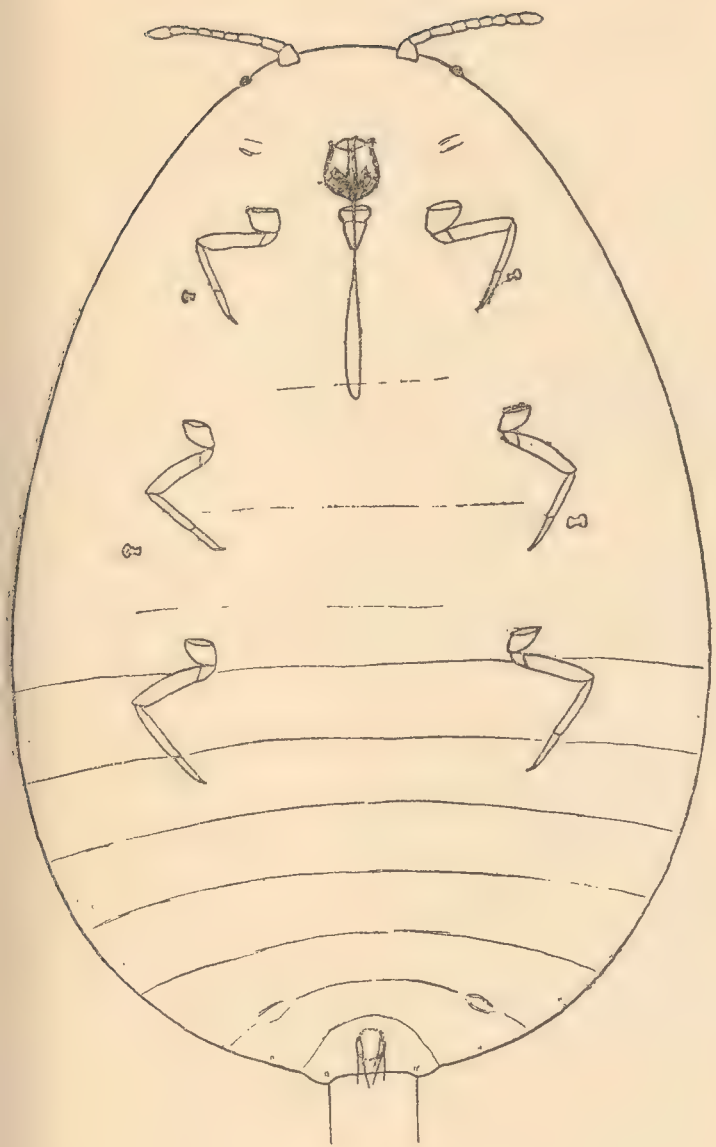


FIG. 1.

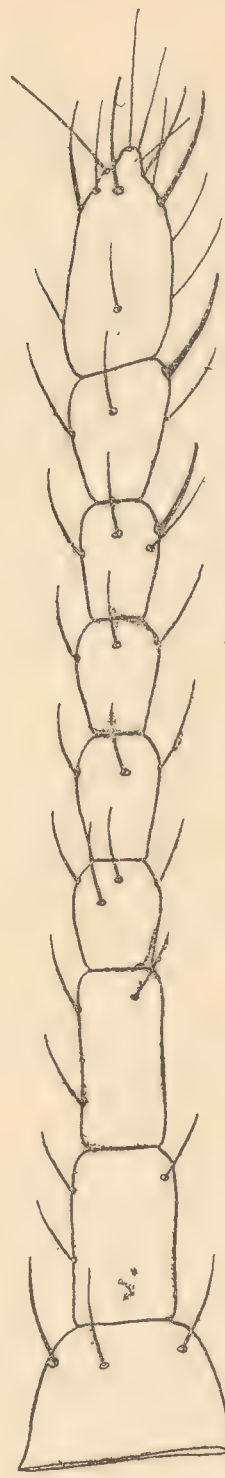


FIG. 2.

FIG. 3.

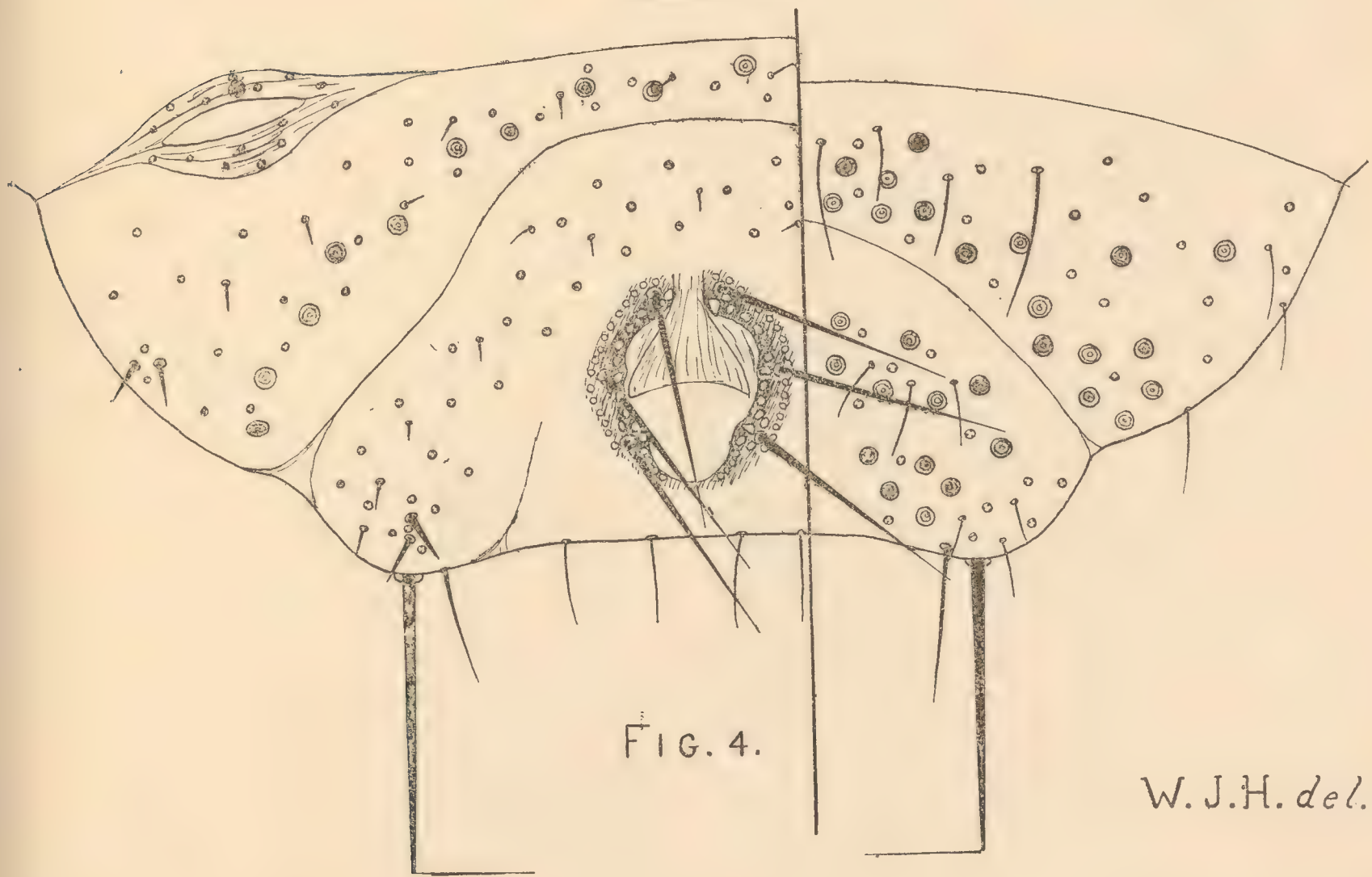


FIG. 4.

W. J. H. *del.*

EXPLANATION OF PLATE II.

Phenacoccus hirsutus VAR. *cressae* VAR. NOV.

Fig. 1. Adult female ×28.

» 2. Hind limb of adult female ×200.

» 3. Antenna of adult female ×250.

» 4. Posterior extremity of abdomen of adult female ×200.

PLATE 2.

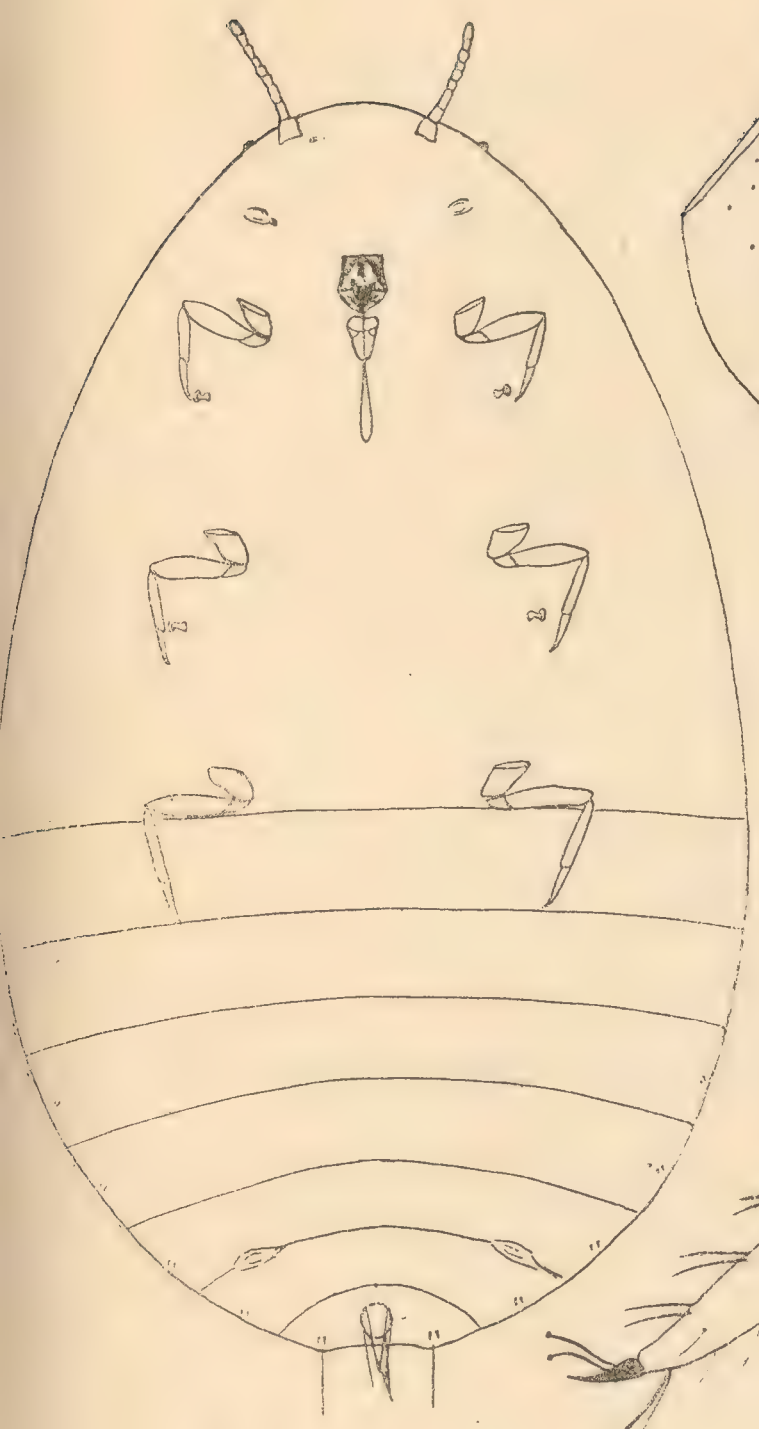


FIG. 1.

FIG. 2.

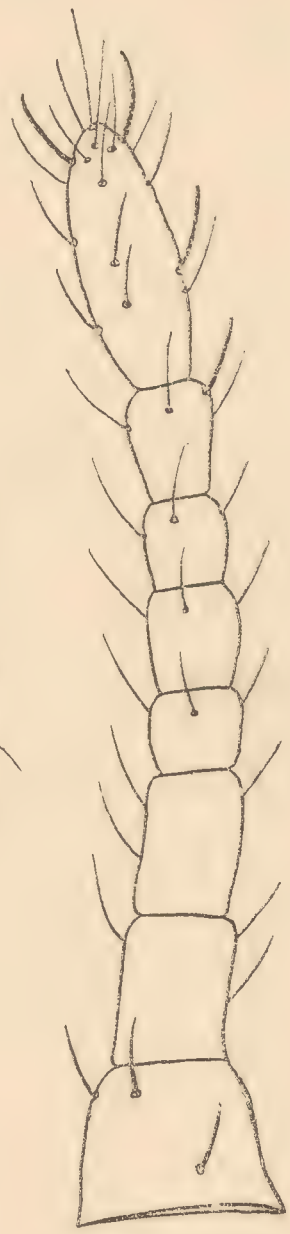


FIG. 3.

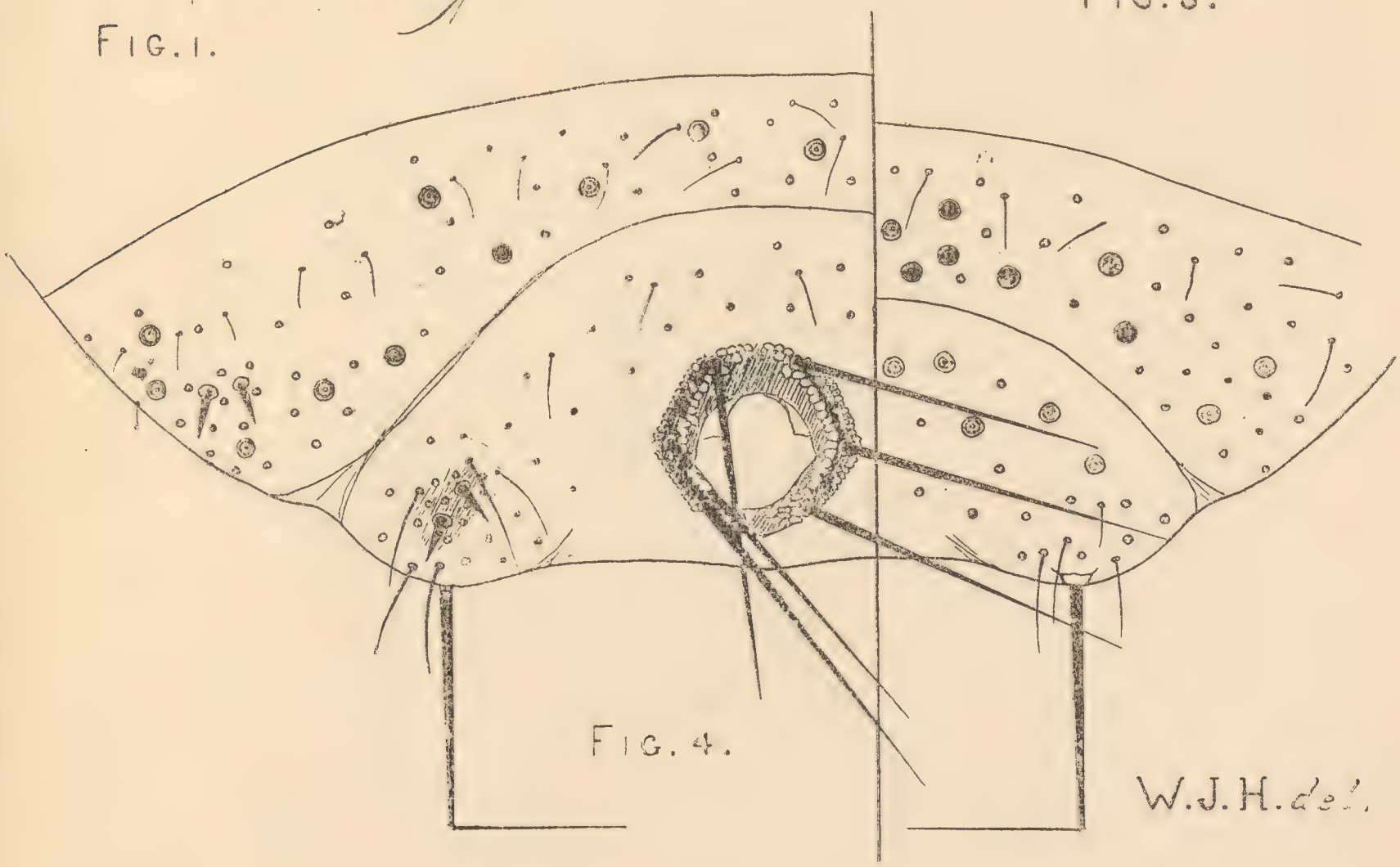


FIG. 4.

W.J.H. del.

EXPLANATION OF PLATE III.

Trionymus euphorbiae SP. NOV.

Fig. 1. Adult female ×25.

» 2. Hind limb of adult female ×175.

» 3. Antenna of adult female ×250.

» 4. Posterior extremity of abdomen of adult female ×300.

PLATE 3.

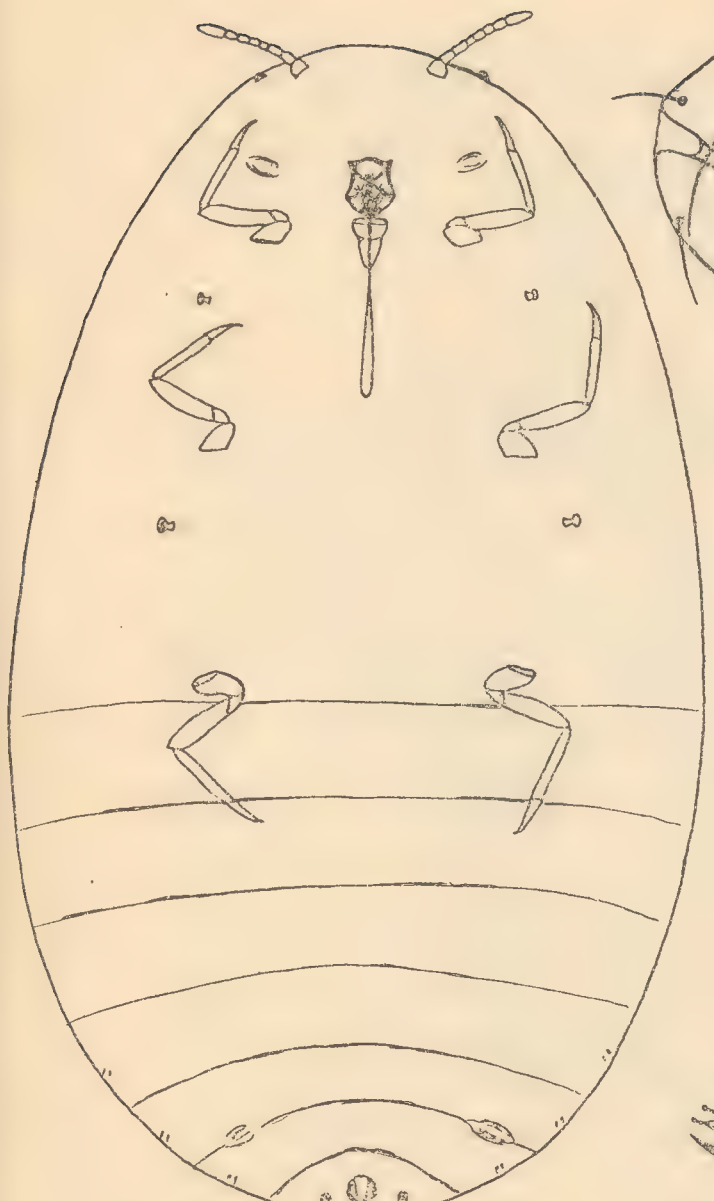


FIG. 1.

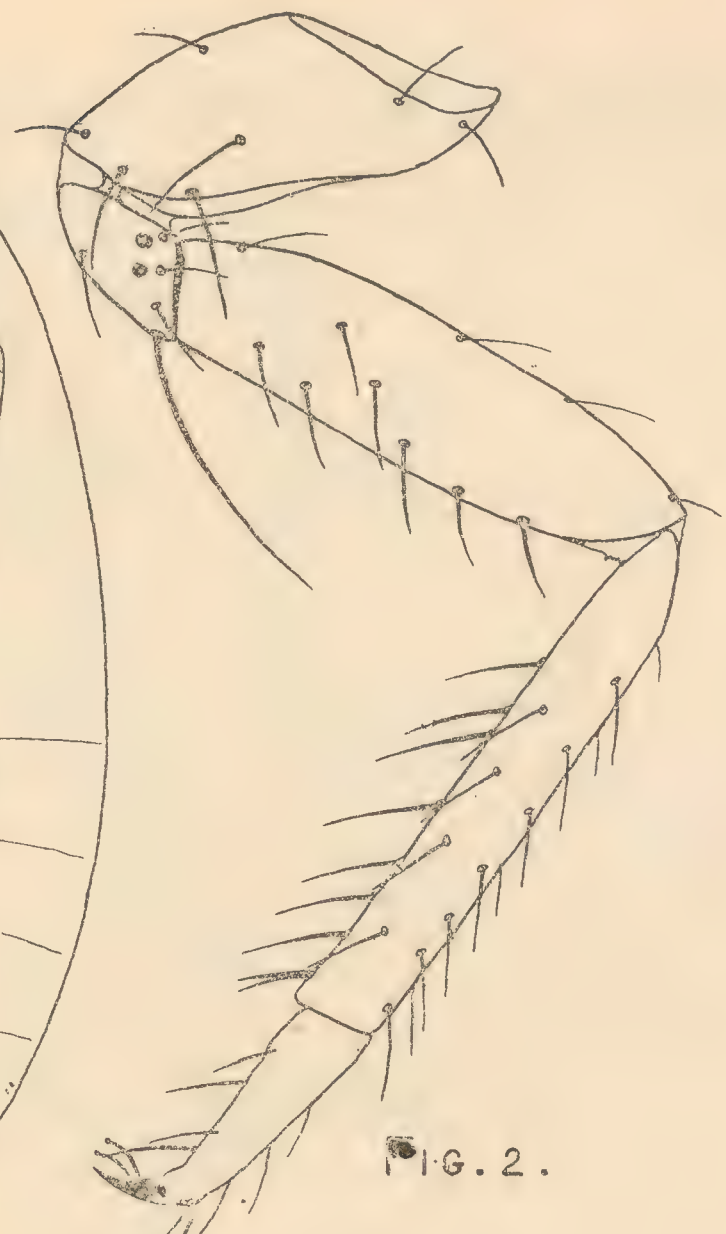


FIG. 2.

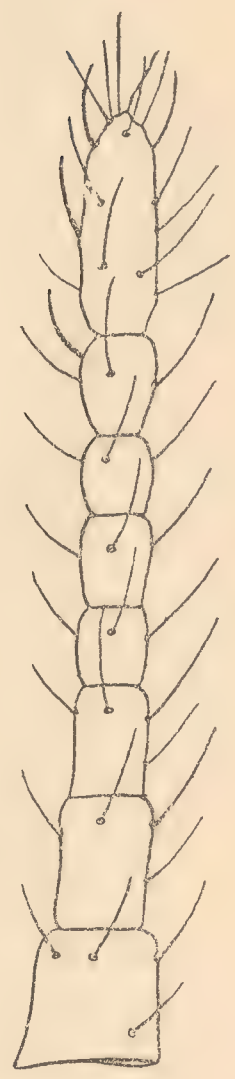


FIG. 3.

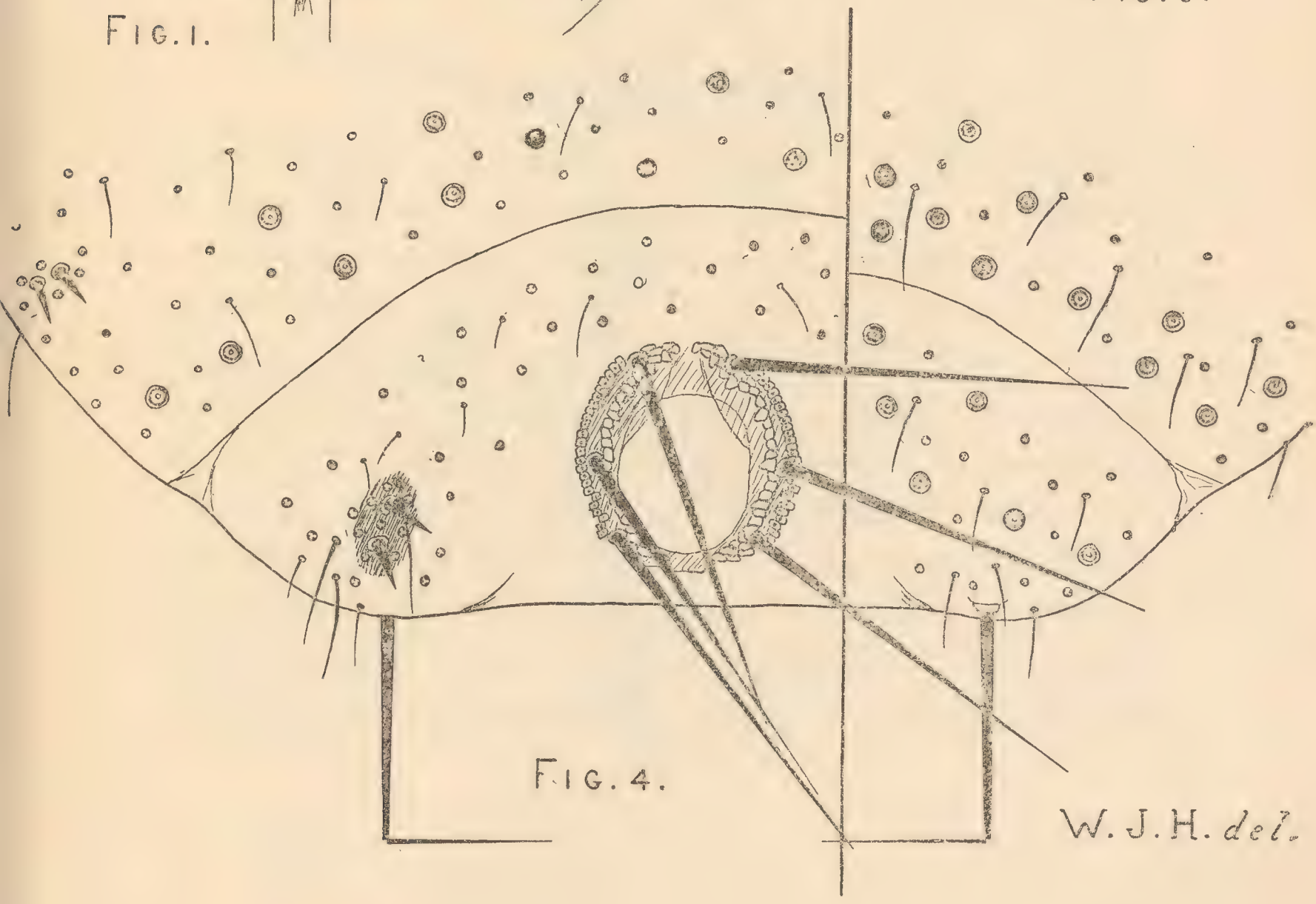


FIG. 4.

W. J. H. *del.*

Sur deux Pyralides remarquables des déserts égyptiens

par Anastase Alfieri

Le Monastère de Saint Antoine est situé dans le désert arabique, à une distance d'environ 140 kilomètres Est de Beni-Souef (Haute-Egypte). A mi-route s'étend une immense plaine sablonneuse et pierreuse, encaissée entre les massifs Nord et Sud du Galala. Elle est sillonnée de Wadis, parmi lesquels le Wadi Araba et le Wadi Askhar sont les plus importants. C'est de ces deux Wadis que j'ai rapporté au Caire, le 10 mars 1926, le matériel qui fait l'objet de cet article. Je donne ci-dessous les résultats obtenus de mes élevages, ainsi que les notes recueillies au cours de l'expédition.

1. *Tachypteryx acanthotecta* Rebel.

Cette Pyralide offre, au cours d'un de ses stages primaires, un exemple remarquable de mimétisme.

Sa chenille s'abrite dans un fourreau qu'elle ne quitte jamais. Ce fourreau, en forme de cône allongé, avec 4 mm. de diamètre à la base chez les grands exemplaires, mesure jusqu'à 5 cm. de long. Il est très uniforme et légèrement rugueux extérieurement, avec l'intérieur tapissé de substances soyeuses. Progressivement construit par la chenille, il est composé des excréments de celle-ci, soudés par des sucs salivaires. Il imite à s'y méprendre les épines de l'*Acacia tortilis* Hayne, spécial à la flore désertique, qui est la plante

nourricière de la chenille. La figure 1 représente une petite branche de cet arbuste, sur laquelle sont fixés

Fig. 1

quelques uns de ces fourreaux, indiqués par la lettre a.

La chenille vit à l'intérieur du fourreau et mesure un peu plus de 25 mm. de long; sa plus grande largeur est située au deuxième segment thoracique, et elle diminue progressivement pour se réduire des deux tiers au segment anal; la tête est de couleur brun jaunâtre avec l'hémisphère, le clypeus et l'épipharynx chagrinés irrégulièrement, parsemés de ponctuation noire et profonde et de tubercules sétigères; ocelles de l'hémisphère bien apparents; extrémités des palpes maxillaires et labiaux rembrunies ; pattes prothoraciques, au nombre de trois paires, longues et aciculaires; pattes abdominales très petites, disposées par paires sur chacun des segments trois à six; segment anal pourvu d'une paire de pattes très petites.

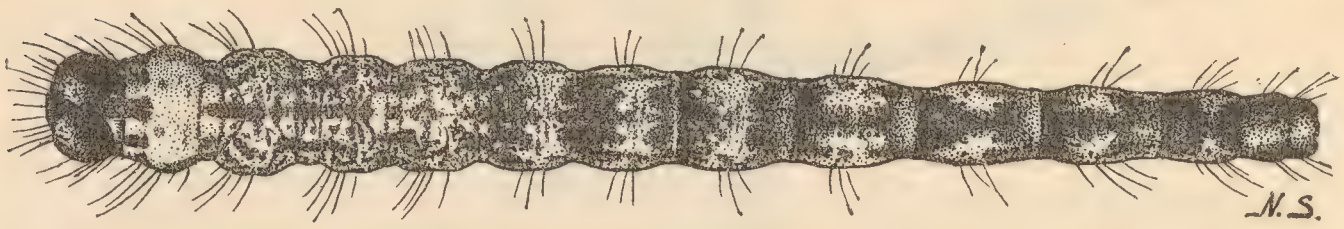


Fig. 2

Dessus de la chenille (fig. 2) de couleur rosé brunâtre, avec cependant le premier segment thoracique blanc jaunâtre et marqué sur son tiers supérieur de 6 bandes longitudinales; trois stries longitudinales, dont une médiane, apparentes sur les deuxième et troisième segments thoraciques, qui sont en outre parsemés de tachetures foncées; segments abdominaux et anal, ainsi que les précédents, pourvus de tubercules setigères.

La nymphose a lieu à l'intérieur du fourreau qui, à l'époque de l'éclosion, se décolle en grande partie et reste suspendu à la branche par quelques fils soyeux seulement. Le papillon (fig. 3) se dégage par la base

Fig. 3

du fourreau ainsi exposée. Il a été récemment décrit (voir ce Bulletin, pp. 183-185) par le Professeur Dr. H. Rebel du Musée National d'Histoire Naturelle de Vienne.

Les éclosions, au nombre de cinq, ont eu lieu entre le 11 avril et le 2 mai 1926.

Un grand nombre de fourreaux n'ont pas donné d'éclosions, tandis que d'autres m'ont fourni deux parasites. L'un d'eux est un diptère Tachinaire, *Pales pavida* Meigen = *cilipeda* Rond., dont la larve est très phytophage. Je dois cette information, ainsi que la détermination de l'espèce, à l'obligeance de M. le Dr. Joseph Villeneuve. L'autre est un hyménoptère Chalcidide du genre *Chalcis*, dont il m'a été impossible de définir l'espèce : elle est sûrement nouvelle.

Je possèdais déjà un exemplaire de cette Pyralide, capturé le soir à la lampe, par Monsieur P. A. Clayton, dans le Wadi Isla au Sud de la Péninsule Sinaïtique, le 27 Mars 1924. C'est encore un peu partout dans le Sud de la Péninsule Sinaïtique que Monsieur Alfred Kaiser a observé en abondance, fixés sur les branches de l'*Acacia tortilis* Hayne, les fourreaux de ce Microlépidoptère, sans toutefois s'intéresser d'avantage à la question.

Le *Trachypteryx acanthotecta* Rebel n'est donc pas une espèce spéciale à la région du Galala.

2. *Lepidogma jordanalis* Rebel.

Je ne puis malheureusement décrire la chenille, toutes celles que j'avais rapportées s'étant transformées en pupes en cours de route.

Déjà connu de la Palestine et de la Région du Canal Maritime de Suez, le papillon (fig. 4) est décrit par Rebel (*Iris* XV, 1902, p. 100, pl. 4, fig. 2, ♂). Hampson l'a redécrit sous le nom de *constantialis* (*Ann. et Mag.*, 7, XVII, 1906, p. 123).

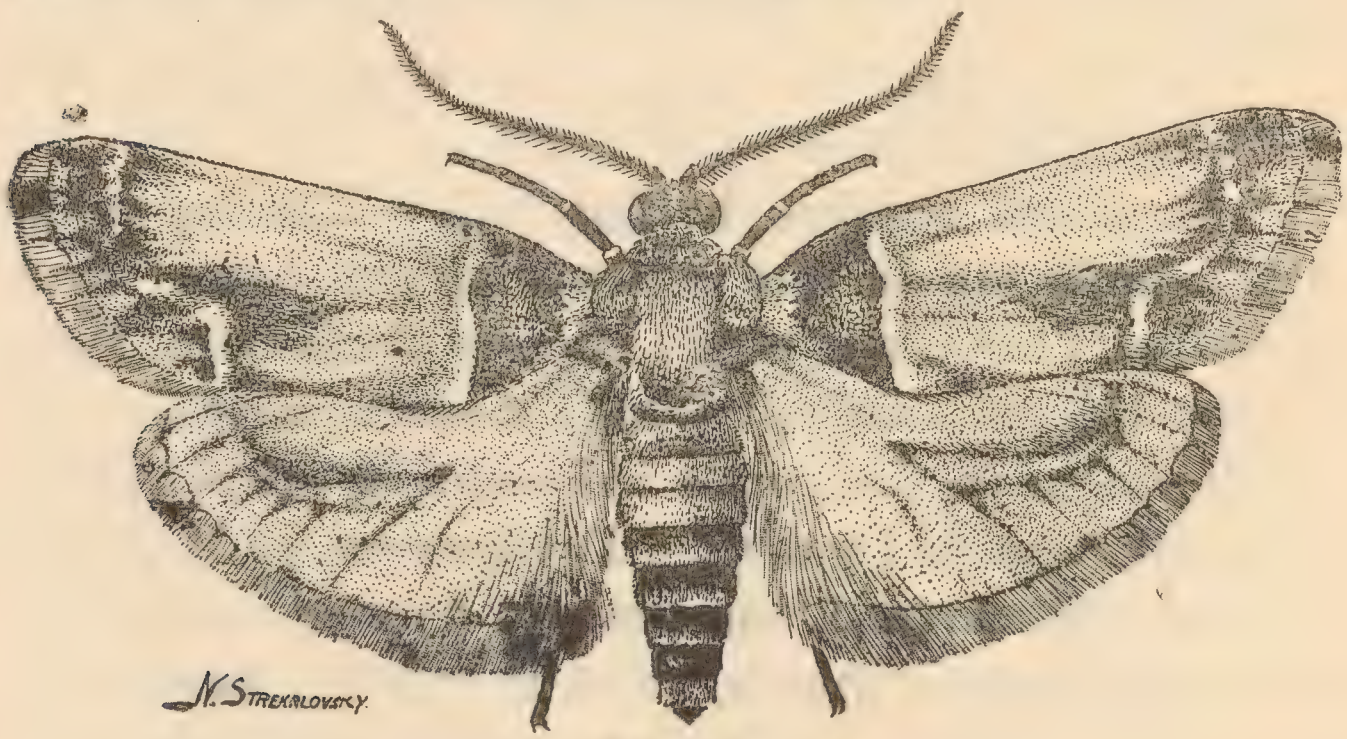


Fig. 4

Les chenilles ont été recueillies sur une *Ephedra* totalement dépourvue de feuilles et de fleurs à l'époque de mes récoltes, rendant ainsi impossible la détermination spécifique de ce genre de Gnetacée, représenté dans les déserts égyptiens par l'*Ephedra alte* C.A. Mey et l'*Ephedra alata* Decne.

L'éclosion des jeunes chenilles doit avoir lieu

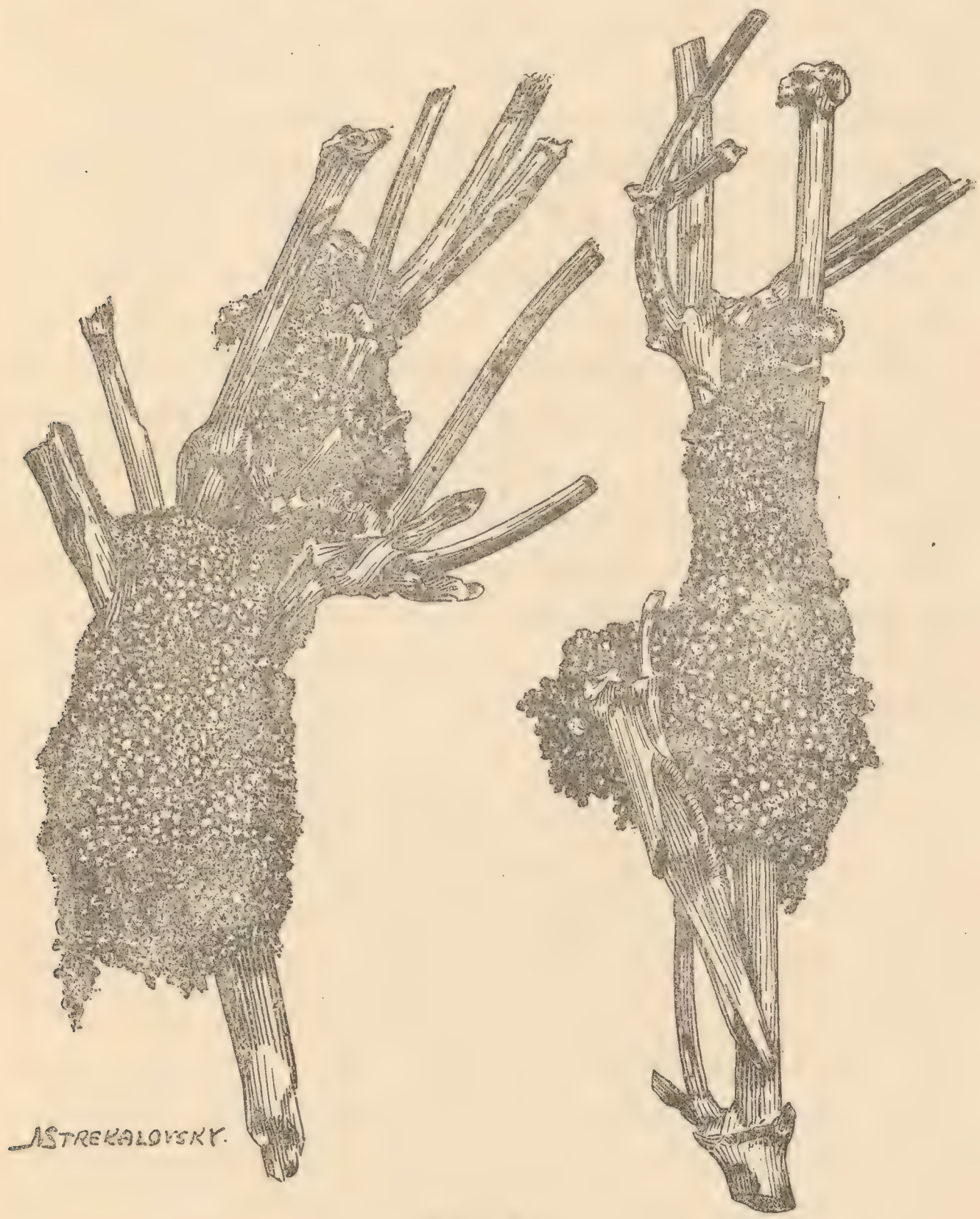


Fig. 5

vers le mois de Décembre. Elles se nourrissent vraisemblablement des feuilles et des fleurs qui ornent la plante à ce moment. Plus tard elles ne dédaigneront pas de ronger le parenchyme des tiges.

Rien d'aussi caractéristique que le tube qui protège la chenille. Il augmente en dimensions au fur et mesure de la croissance de celle-ci. Il est généralement tissé à la base des ramifications de la plante, l'intérieur est soyeux et l'extérieur est recouvert de grains ligneux, brunâtres, qui ne sont autre chose que les excréments de la chenille. La figure 5 représente une de ces agglomérations en grandeur naturelle.

Obtenu trois papillons, éclos du 1 au 4 Avril 1926.

J'avais assez souvent observé des tubes similaires sur des plants d'*Ephedra* croissant ça et là dans les Wadis situés dans le désert arabique à l'Est de Hélouan, mais c'est la première fois qu'il m'a été donné d'en connaître l'auteur grâce aux éclosions obtenues de mes récents élevages.

Further Notes on Egyptian Syrphidae with Description of a new species.

By Hassan C. Efflatoun Bey,

Director for Research, Plant Protection Section,

Ministry of Agriculture, Cairo.

During a collecting expedition to the South Galala Plateau (Arabian Desert) in February 1926, amongst the interesting material obtained by us are three species of *Syrphidae* worthy of notice. One of these is *Paragus serratus* F. of which only two specimens were known from Egypt (see *Bull. Soc. Roy. Entom. d'Egypte*, fasc. 4, p. 274, 1925 (1926)). The other two species, which belong to the genus *Eumerus* were bred out from larvae infecting the stems of *Cistanche lutea* Hoffmg. (*Orobanchaceae*) in Wadi Araba. On March Ist 1926 the larvae were found swarming in the stems of *C. lutea* a parasite of *Haloxylon schweinfurthii* Ascherson which was growing abundantly in a long stretch of pure white sand in the centre of the Wadi. The larvae present were very different in size but at the time they were thought all to be the same species. Over 70 larvae were present in one stem. Some of the infected plants were collected and brought back to the laboratory. Great difficulty was found in keeping mildew and rot from harming the larvae and pupae. On May 15th (1926) 5 specimens emerged, two of which were much larger; they were immediately recognised to be the

rare *Eumerus mucidus* Bez. (*) of which two females only were known so far (see reference given in footnote) and of which I am glad to give here the description of the so far unknown male.

The three other specimens were thought to be at first sight *E. amoenus* Lw., but on closer examination one was soon convinced of the separate identity of the species; moreover the specimens do not correspond with the descriptions of the known species of *Eumerus*. I am indebted to Prof. Bezzi for confirming my opinion that the species is new. A good many specimens emerged during the following week, so that the descriptions given below are based on a rich and extremely fresh material. A good quantity of larvae of all sizes were preserved in alcohol (after killing by dropping them in boiling water) at a period immediately anterior to that of their pupation, in order to ensure the presence of fully grown larvae. The descriptions of these two *Cistanche*-feeding Syrphid larvae and pupae will be the object of a special paper which it is hoped will be ready for publication in the near future.

Paragus serratus L. — One typical male was captured by me hovering in the shade of a bush of *Ochradenus baccatus* Delile in Wadi Askhar-el-Bahari on February 28th, 1926. A second male was caught

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(*) In my Monograph of Egyptian Diptera, Fam. Syrphidae (Mém. Soc. Entom. d'Egypte, Vol. II, fasc. 1, 1922, pp. 105-109) this name was incorrectly stated as *muscidus* Bez., instead of *mucidus* Bez.

by one of our best collectors, Kassim Effendi near Ismailia (8.IV.1926). These interesting discoveries show that *P. serratus* L. has a fairly wide distribution in the Arabian Desert.

Eumerus cistanchei nov. spec.

Diagnosis :

A small, shining species, resembling *E. amoenus* Lw. but distinguished from it and from the other species of the genus by its steel bluish-black colour, the elongate and very narrow vertex of the male and by the shape of the abdominal lunules.

Male :

Frons and face entirely covered with a very dense and shining tomentum which is a purer silver colour than in *amoenus*, appearing like a coat of satin; the pubescence is scattered and consists of pure white hairs; this silver tomentum and white hairs extend on the jowls and on the occiput except above where the latter is devoid of dust but bearing a pale tawny pubescence; vertex long and decidedly narrower than in *amoenus* (Fig. 1, a.b.), almost flat; it is very

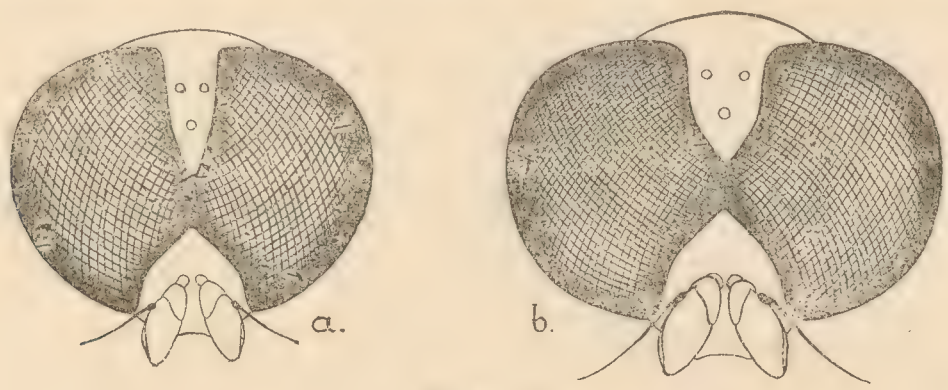

Fig. 1

shining steel-black like the upper part of the occiput and the thorax but with silvery-white tomentum on

the very narrow apical triangle or tip, as well as on two elongate spots immediately below the pair of ocelli one on each side and touching the lateral margins; the pubescence on the vertex is tawny on the black area but whitish on the white apical triangle and lateral spots; the two posterior ocelli are very close to each other and the distance between them and the anterior ocellus seems to be therefore even greater than these distances in *amoenus;* eyes quite bare, touching for a distance equal to the length of the frons (for about 9 to 10 facets) (Fig. 1) this being a longer distance than in *amoenus ;* antennae with the three joints reddish-brown, sometimes yellowish-red and often the third joint blackish above and the very short basal joint very often much darker; the joints are covered with a very thin and pale dust and the pubescence which is very short, white and inconspicuous is present on the two basal segments only; arista with the two very short basal joints yellow to yellowish-red and the long third joint blackish except at the base yellow.

Thorax very shining black with a characteristic steel-blue sheen which may vary in certain lights from steel-blue to bluish-green; the two usual whitish bands in front are fairly conspicuous and extend beyond the middle; the humeri are less swollen and less prominent than in *amoenus* and they are covered with a white dust which extends down on the margins of the disc to the wing bases, as well as on the pleurae ; the punctuation on the disc is dense and somewhat coarser than in *amoenus;* pubescence very pale, short and inconspicuous and, as usual, a little

longer on the humeri and sides; scutellum similar to the thorax in colour and with a similar pubescence; it is more convex in the centre than in *amoenus* and somewhat longer and narrower; its margin is similar to that of *amoenus*, i.e. serriform flattened except at the basal corners and composed of about twenty short stout spines which seem to have coalesced except at their extreme tips.

Abdomen black with less brillant blue and green irridescences and less shining than the thorax; the whitish lunules, one pair on each of the 2nd, 3rd and 4th segments are similar to those of *amoenus* but they are somewhat more conspicuous and the pair on the 4th segment is decidedly longer, more lunulate and somewhat narrower than in Loew's

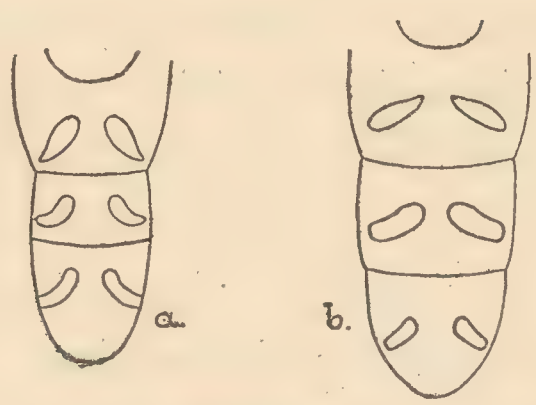

Fig. 2

species (Fig. 2, a.b.); it is densely punctate like the thorax and with a very short, adpressed pubescence which is whitish on the lunules and from tawny to brown elsewhere. Venter black with a sparce whitish pubescence as well as dust which gives it an opaque-grey appearance in certain lights. Hypopygium black with two reddish-brown crescent-shaped clasper-like organs and a very sparce, inconspicuous pubescence. Legs black and reddish-yellow with all the coxae

blackish; front trochanters reddish-brown ; middle and hind trochanters much darker; front and middle femora blackish except their apical thirds reddish-yellow; hind femur much more swollen, as usual, and bearing on its lower distal half two rows of about 5 to 6 small, sharp, black spines; it is more extensively black than the middle femora thus being reddish-yellow to yellowish on its extreme apex only; front and middle tibiae with their basal halves and tips yellow but dark brown on their distal halves; hind tibiae, which are bent and swollen, are black but yellow for more than their basal thirds and on their extreme apex reddish-brown; hind metatarsus almost as swollen as the hind tibiae, blackish, except at both ends where it is reddish-brown to reddish-yellow; often this yellow colour extends on more than the apical third of the metatarsus; all the tarsi yellow to reddish-yellow with the two apical joints often a little darker; the pubescence on the legs is uniformly short and whitish all over except on the middle and hind femora where it is longer, more tufted and often darker; there also exists a fringe of about seven white bristly hairs at the apex of the hind tibiae.

Wings with a venation similar to that of *amoenus* but neither smoky nor clouded, being entirely hyaline; subcostal cell brown and R4+5 with a less accentuated dip than in *amoenus;* squamulae white with a very pale margin and pure white fringes; the fringes of the alar pair being composed of small and simple hairs, whilst those of the thoracal pair consist of much longer and compound hairs as in *Syritta;* halters very pale yellow.

Female :

Very similar to the male but with the tomentum on the thorax and abdomen rather denser, hence the longitudinal lines on the former and the lunules on the latter are more conspicuous than in the male; the frons is shining black on the ocellar triangle and near the base of the antennae only but elsewhere it is almost entirely dull owing to its white tomentum which however is less dense than on the face; the apex of the abdomen is more pointed than in the male.

Length : 5 - 8 mm.

Eumerus mucidus Bez. (♀).

Diagnosis :

A large species at once distinguished by its eyes which are pubescent and in the male touching for a very small distance, as well as by the pronounced and deep loop in R4+5 vein.

Male (novum) :

Face and frons black, fairly shining and bearing a rather long and dense pubescence which is dirty white except on and around the ocellar triangle where it is brownish-grey; face short and flat; mouth small and oval, peristoma narrow; frons narrow and long; vertex flat; occiput puffed out behind and possesses brownish-grey pubescence above but which becomes gradually paler and longer below until it is similar to that of the face; eyes covered with a fairly dense dark grey pubescence and touching for a length of not more than three facets; antennae rather short rusty-red to yellowish-red with the basal joint

only, often reddish-brown; the third joint is rounded and devoid of pubescence but with a thin coating of pale and fine dust, best seen on the outside; the two small basal joints bear a few black bristly hairs above and some pale and longer hairs below.

Thorax rather shining aeneous-black with the usual pair of white lines on the front of the disc which are less conspicuous than in the female; the vestiture is dense, pale greyish-white to white, fairly long and even, as well as on the scutellum.

Abdomen elongate, rather flat and usually less conical towards the end than in the female; it is rather shining aeneous-black with more or less large yellowish-red to reddish-brown spots and three pairs of characteristic white lunules, one on each of the 2nd, 3rd and 4th segments respectively; the reddish markings vary considerably in size in different specimens of both sexes, in most cases occupying the whole background of the white lunules, in others extending

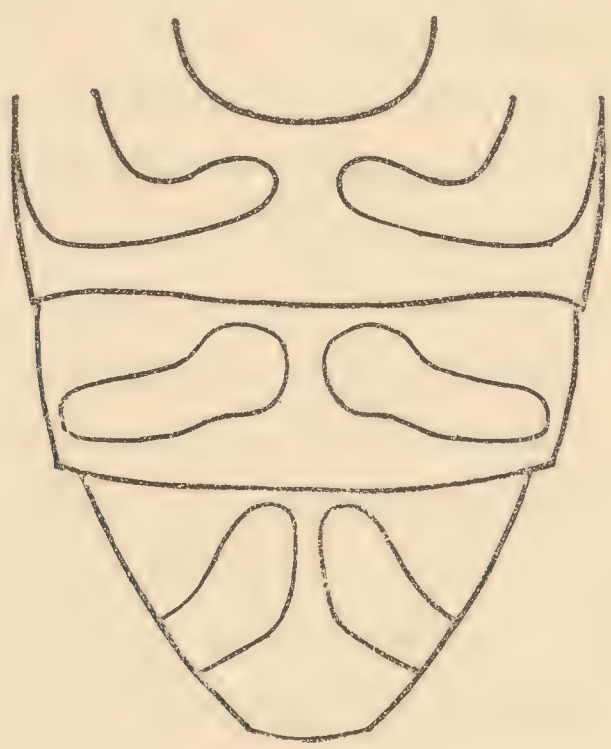

Fig. 3

on the base of the 2nd and tip of the 4th segments

only and in rare cases occupying more than the apical half and the lateral margins of the basal half of the abdomen (most probably in immature specimens); the pair of lunules (Fig. 3) on the second segment are almost horizontal and very much dilated on their outer halves; moreover they are further apart and narrower at the centre of the segment than the lower two pairs of lunules, are closer together and broader at the base and are rather oblique and dipped towards their centre; they are narrower towards their outer end than internally; the third pair of lunules on the 4th segment are even a trifle closer to each other and much more dilated internally; they are very oblique, in fact their inflated and broad inner halves are almost vertical, their inner margins running parallel with the side margins of the segment, they then suddenly bend outwards almost at right angles a little after the middle and thus their lower third which is much narrower) becomes almost parallel with the lower margin. All these lunules can be clearly and accurately seen only in a certain light: the insect should be placed with its anus *facing* the light and with the light coming, as usual, from the front of the observer; the lunules then appear very clearly and almost white, while when examined with the insect facing the light or across the light they become almost imperceptible and even quite invisible. Hypopygium small, reddish-brown and apparently complex ; pubescence on abdomen entirely whitish, dense and short.

Legs as in the female and the pubescence (in both sexes) is fairly long, tufted and whitish on the fem-

ora with the exception of some short and blackish erect hairs in front of the middle femora and two rows (as usual) consisting each of 4 to 5 strong and pointed black spines on the ventral surface, near the apex of the third femora; the tibiae possess chiefly a very short and whitish pubescence but towards the apex of the hind tibiae (which are weak) the hairs are from greyish to tawny; tarsi with whitish tawny and blackish pubescence intermingled, as well as short black spines; the dark hairs however are more numerous on the middle and hind tarsi, especially on the latter while on the front tarsi the pale hairs are predominent.

Length : 8.5 - 12.5 mm.

E. Bugnion : Nouvelle Etude des organes buccaux de la Scolie
(*Bull. Soc. Royale Ent. d'Egypte*, fasc. 4, 1925 (1926).

ERRATA

p. 300. — dernière ligne : *6* au lieu de *5*.

p. 314. — 2e ligne d'en haut : deux petites *lames* brunes.

p. 330. — 4e ligne d'en bas : dorsale et ventrale *du pharynx*.

p. 339. — 8e ligne d'en bas : *fig. 22* au lieu de *6*.

p. 377. — 4e ligne d'en haut : *surplus* au lieu de *surpus*.

p. 377. — 9e ligne d'en bas : *désignées* au lieu de *disginées*.

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